JANUARY 1960

# National SAFETY NEWS

IN THIS ISSUE:

Tension—and How to Live with It

Fire Insurance Costs High?

Extra Effort—More Eyes Saved

MSA
SAFETY EQUIPMENT HEADQUARTERS

**Only MSA backs up its label with:**
**selection—quality—research—experience**

# ONE RESPIRATOR STANDS OUT

Bureau of Mines approved for dusts and mists

Mine Safety Appliances Company • Pittsburgh 8, Pennsylvania

Four Black Plain Toes... Smooth & Grain Leathers ...Cat. Nos. H512, H216, H521, H538

H512

Black Algonquin Executive with Cushioned Arch ...Cat. No. H513

H513

Black U-Wing Oxford...Cat. No. H517

H517

Four Black Moc-Oxfords... Laceless, Ventilated, Two Duo-Tones, One with cushioned Arch... Cat. Nos. H533, H531, H534, H544

H533

Black Medallion Tip Oxford... Cat. No. H529

H529

Ever-Popular Black Kangaroo with Cushioned Arch ...Cat. No. H205

H205

# "Black Beauties"

**H544**...Black high-shine smooth leather upper, horizontal-embossed leather vamp, oak leather sole, rubber heel. Other HY-TEST blacks feature Resist-Oil (Neoprene), Neoprene Air Cushion Saf-Tred and Ripple soles; several include comfort features.

## NEW *Embossed Ebony* OXFORD ACCENTS HY-TEST BLACK STYLES

Dressy and good looking for wear on-and-off the job... Comfort-Fitted to help prevent fatigue all day long... Safe and sure in protection with the famous Anchor Flange® Steel Box Toe and other exclusives, these are the features your men get in HY-TEST's range of a *full* **dozen** black oxfords. Here, for example, is our newest! H544... one of the most stylish safety oxfords ever offered.

Be sure you have a good selection of blacks as well as browns. Write or wire today for the new HY-TEST Catalog 60.

**HY-TEST SAFEty SHOES**

Division

**INTERNATIONAL SHOE COMPANY**

1509 Washington, St. Louis 66, Mo.
Teletype: SL186
927 N. 23rd St., Philadelphia 23, Pa.
Teletype: PH476

# HY-TEST

**The FINEST... the SAFEST in SAFEty SHOES**

# National SAFETY NEWS

A NATIONAL SAFETY COUNCIL PUBLICATION

**Vol. 81, No. 1** **JANUARY 1960**

**EDITORIAL**

4 The Work Climate

**FEATURE ARTICLES**

14 What About Bert? Part II (Diary of a Safety Engineer)—*Bill Andrews*

18 Tension and How to Live with It—*Earle S. Hannaford, Ph.D.*

20 Small-Scale Operation, Large-Scale Hazards—*V. A. Jones*

26 Extra Effort, More Eyes Saved—*S. W. Rowland, Jr.*

28 They're Learning to Use Seat Belts—*Murray D. Segal*

32 We Need Each Other—*Paul L. Phillips*

40 No Rope Tricks

46 Psychology Helps You Pick Your Men—*C. G. Evans*

52 Is Risk Necessary for Production?

56 A Homespun Safety Program

**OCCUPATIONAL HYGIENE**

24 Industrial Hygienists—Who They Are, What They Do—*George M. Wilkening*

36 Got a Noise Problem?—*Fred W. Braun*

**FIRE PROTECTION**

22 Fire Insurance Costs High?—*William E. Rossnagel*

90 Impregnated Wood Won't Feed Flames

**MAINTENANCE AND SANITATION**

34 Battling the Bugs—*D. A. Blackwell*

**DEPARTMENTS**

6 The Safety Valve

9 Consultation Corner

10 News Briefs

12 The Accident Barometer

17 Small Business and Associations

30 Ideas That Worked

38 Wire From Washington

42 Off the Job

44 Distinguished Service

50 Personals

58 The Safety Library

66 Around the Compass

68 What's New

98 Employee Booklets

99 Safety Posters

123 New Products

130 Calendar Contest

131 Trade Publications

**NATIONAL SAFETY COUNCIL**

Chartered by the Congress of the United States

HOME OFFICE

425 North Michigan Avenue, Chicago 11

New York Offices: Local Service Office, 60 East 42nd St., New York 17; Public Service Fund, 639-40 Chrysler Bldg., New York 17.

San Francisco Office: 703 Market St., San Francisco 3.

EDITORIAL STAFF

EDITOR: Carman Fish

ASSOCIATE EDITORS: James D. Saul, Robert Dorsett

TECHNICAL DIRECTOR: Roy Benson

CONTRIBUTING EDITORS: E. L. Alpaugh, Harry C. Johnson, Arthur S. Kelly, Harry N. Rosenfield, L. C. Smith, R. C. Ellis, Jr., T. J. Nolan.

EDITORIAL DIRECTOR: Robert L. Meyer

PUBLICATIONS COORDINATOR: Jack Horner

ART STAFF

DIRECTOR: Ralph Moses

COVER: William Wendland

PHOTOGRAPHER: James B. Lehman

Statements and opinions advanced in signed articles are personal expressions of the authors, not necessarily those of the National Safety Council.

NATIONAL SAFETY NEWS is published monthly by National Safety Council. Copyright 1959 by National Safety Council. Printed in U. S. A. Entered as second class matter June 21, 1921, at the Post Office at Chicago, Illinois, under the act of March 3, 1879. Subscription rate: $6.50 a year. Single copies $1.10. All prices subject to 10 per cent discount to National Safety Council members. Quantity prices for yearly subscriptions and single issues on request. Member Audit Bureau of Circulation.

## THE COVER

Convair's safety staff practice what they preach. Betty Jo Moore of the San Diego plant safety office is fitted with prescription safety glasses. *See page 26.*

*37,800 copies of this issue were printed*

# the work shoe that **has** EVERYTHING

**STEEL-TOE SAFETY!**

**SNEAKER-COMFORT!**
*(The upper is real glove-leather)*

**SPORTY GOOD LOOKS!**

**OUTSTANDING WEAR!**

Stock No. 1341

*one of the biggest hits we've ever had!*

**OIL-RESISTANT NEOPRENE CUSHION CREPE WEDGE**
floats the whole foot on air!

**Lehigh**
**SAFETY SHOE COMPANY**
*Emmaus, Pa.*



Circle Item No. 2—Reader Service Card

## EDITORIAL

# The Work Climate

THE LIST OF THINGS that make a plant a good place to work is a long one. And the company that meets all these challenges hasn't yet been incorporated.

Not that many noble attempts haven't been made, a few of them successful for varying periods. Excessive paternalism has wrecked many a high-minded welfare scheme. Some companies eventually got large and impersonal. And human nature being what it is, idealism is subjected to continuous attrition.

But if industrial utopias are rare, there are many companies where working conditions are satisfactory and human relationships are reasonably harmonious. Where such conditions exist, you'll find that management and men respect each other, even though they may disagree at times. They also have common goals, and preventing accidents is one of these.

The physical plant is the basis for a congenial work climate. As a basic requirement, the place must be clean, well ventilated, well lighted, and as free as possible from hazards. Yet even a show place and a safety man's dream may turn sour for reasons not always apparent. Even where the essentials are satisfactory, little blisters can form and cause trouble.

What keeps an employee contented on his job?

Here is a 10-point program for keeping up morale suggested by Prof. H. S. Bretsh of the University of Michigan and quoted by *Factory*. Does the employee:

- Know what's going on that may affect him?
- Have a feeling of belonging? This is often due to participation in departmental or company affairs.
- Have a feeling of mastery? The difficulty of the job doesn't matter as long as it's recognized as important to the plant's effort.
- Know that ways and means exist for solving interpersonal problems? This is comforting, even though he doesn't need to use them.
- Believe that every effort is made to take the anxiety out of his work situation and make his job and work relationships pleasant?
- Feel that people pay attention to him when he makes a point or voices a gripe?
- Know there are channels for airing grievances?
- Feel that pay and position are coordinated?
- Know there is opportunity for advancement?
- Know that he has unique integrity and worth, even though he may have less authority than some people?

Some of these, Prof. Bretsh points out, are somewhat outside management's control, but they are important elements in controlling the work climate.

Point No. 10 is an outstanding example. Many a person gets a profound satisfaction out of feeling that he is doing more important work than somebody higher up in the organization scheme.

It is, of course, impossible to please everybody. The paranoiac personality and the overinflated ego are always with us. But the person who finds an outlet for self expression in his job and feels important in the company's operations is not likely to become a problem employee.


## NATIONAL SAFETY COUNCIL

### OFFICERS, 1959-60

CHAIRMAN, BOARD OF DIRECTORS
WALTER F. CAREY, President, Automobile Carriers, Inc., Flint, Mich.

PRESIDENT EMERITUS
NED H. DEARBORN, Titusville, Pa.

CHAIRMAN, TRUSTEES, AND PRESIDENT
HOWARD PYLE, National Safety Council.

VICE-PRESIDENTS

For Farms
KIRK FOX, Editor Emeritus, *Successful Farming*, Meredith Publishing Co., Des Moines, Iowa.

For Finance
WILLIAM H. LOWE, Treasurer, Inland Steel Co., Chicago.

For Homes
DR. GEORGE M. WHEATLEY, Third Vice-President, Metropolitan Life Insurance Co., New York.

For Industry
DR. EARLE S. HANNAFORD, Safety Engineer, American Telephone and Telegraph Co., New York.

For Labor
P. L. SIEMILLER, General Vice-President, International Association of Machinists, Chicago.

For State and Local Safety Organizations
WALTER K. KOCH, President, Mountain States Telephone & Telegraph Co., Denver, Colo.

For Membership
EDWARD C. MYERS, Vice-President—Personnel, United States Steel Corp., Pittsburgh, Pa.

For Motor Transport
E. J. BUHNER, Chairman of the Board, Silver Fleet Motor Express, Inc., Louisville, Ky.

For Production
WESLEY I. NUNN, Manager, Advertising Dept., Standard Oil Co. (Indiana), Chicago.

For Public Information
CHARLES W. FERGUSON, Senior Editor, The Reader's Digest, Pleasantville, N. Y.

For Research and Education
DR. WILLIAM P. YANT, Director of Research, Mine Safety Appliances Co., Pittsburgh, Pa.

For Schools and Colleges
DR. LOWELL B. FISHER, Chairman, North Central Association of Colleges and Secondary Schools, University of Illinois, Urbana.

For Traffic
B. D. TALLAMY, Federal Highway Administrator, Bureau of Public Roads, Washington, D. C.

For Women
MISS MARION E. MARTIN, Commissioner of Labor and Industry, State of Maine, Augusta.

EXECUTIVE VICE-PRESIDENT
G. C. STEWART, National Safety Council.

GENERAL MANAGER
W. G. JOHNSON, National Safety Council.

SECRETARY AND TREASURER
R. L. FORNEY, National Safety Council.

# *Ten-count 'em*

## *ten quality lines...one dependable source...*

INDUSTRIAL GLOVES
Poly-D
Natural Rubber
Soft-Lined Latex
Unlined Latex
Soft-Lined Black Neoprene
Unlined Black Neoprene
Unlined White Neoprene
Buna-N
Compar Plastic

LINEMEN'S GLOVES
Natural Rubber
*(Leather Protectors, too)*

Don't shop around for gloves! Now—from ONE dependable source—you can get the gloves you need for better hand protection in hundreds of industrial chemicals. Thanks to premium-quality materials and advanced design, Wil-Gard Gloves provide longer wear and greater comfort . . . give you more value for your glove dollar.

**POLY-D® Disposable Gloves—Newest addition to the Wil-Gard line. Clear, flexible Polyethylene. Convenient, economical protection from many chemicals, powders and resins.**

***See your Wil-Gard Distributor for more information***

WR-1159-19

PROTECTION FOR THE HANDS OF INDUSTRY • SINCE 1916

**WIL-GARD®**

THE WILSON RUBBER COMPANY INDUSTRIAL DIVISION CANTON 6, OHIO
A Division of Becton, Dickinson and Company • Pacific Coast Warehouse: 530 Howard St., San Francisco 5, California

# THE SAFETY VALVE

***Nothing human is alien to me***

***—TERENCE***

## WHEN YOU NEED HELP

DID YOU EVER have to make an emergency call in the middle of the night?

I haven't—not yet—but it could happen any night. I have the numbers of the fire and police departments pasted on the phone (courtesy of a friendly undertaker) but I doubt whether I could dial them in the dark—even if I remembered them.

In such a situation, the obvious thing to do would be to dial "O" for operator. Telephone magazines have carried many stories about operators who have helped in emergencies. But down in Waco, Tex., Frank Cosgrove found that he might as well have tried to get Santa Claus as to expect help from dialing "O."

Frank, a safety man of more than 30 years' service, awoke one night to find his house on fire. He dialed the last digit on the phone.

But in Waco, at least, the operator number is assigned to long distance, and the pleasant voice that answers cannot relay emergency calls.

Before he could find the fire department number (most of us would be a bit panicky under such conditions), precious seconds were lost—more time for flames to spread. Frank and his wife got singed while trying to call the fire department.

In most cities fire and police departments monitor their emergency numbers around the clock, and help will be on the way as you hang up the receiver. But do you know what number to call? Could you find it in the directory without your glasses? Could you dial it in the dark? But you could dial "O" without light, even though your fingers seemed to be all thumbs.

Frank Cosgrove feels quite strongly that something should be done to standardize throughout the U. S. A. a single emergency digit on the dial phone.

The Veterans of Safety have taken up the cause. They told the story of Frank Cosgrove's experience in their quarterly publication, *What's What*, and would like to know how you feel about it. Just drop a line to Gordon St. Clair, c/o Medical Supply Company, 1027 West State Street, Rockford, Ill.

And you might check with the local office of your telephone company on what to do about emergencies, when normal procedure is impossible. Then broadcast the information to your organization through bulletin boards and the employee publication.

## WHO'S EDUCATED?

IN THE NOVEMBER instalment of *The Diary of a Safety Engineer*, Bill Andrew's fictional safety man was facing a problem. He needed a new assistant. Should he pick Bert, a bright, safety-minded young man from the shop with a lot of common sense, savvy, and ability to handle men? Or should he hire an engineering graduate with technical data at his finger tips but an unknown quantity in the intangible elements that play such a big part in safety work?

So Bill asked advice from his readers. Replies were many, and the vote was overwhelmingly for Bert. Letters came from all over the U. S. and Canada. One even came from a native safety trainee in Japan who showed a surprising understanding of safety problems.

The *Diary* this month presents a summary of the replies. Bert gets the job, and the readers who voted for him will be pulling for him to make good. No doubt the author will make sure of that.

This question is whether the safety man is basically an engineer or an administrator. There are successful safety men with technical backgrounds and others who are essentially teachers, administrators, or salesmen. Some have come up from the shop by the supervisor route, like Bert. But they all have certain traits in common—open minds, readiness to learn, and ability to influence people.

There has been much talk about the growing complexity of industry and its possible effect on safety techniques. No doubt about it, a safety man must know a lot more than he did before World War II. But he can't be expected to have the answers to all problems in electronics and nucleonics. Like the general practitioner, he should be a good diagnostician, calling on specialists when needed.

What do we expect of education, anyway?

Nobody will dispute the value of a *cum laude* degree, whether it is in engineering or liberal arts. But practical education, as interpreted by William Feather, has these four essentials:

An education isn't how much you have committed to memory, or even how much you know.

It's being able to differentiate between what you *do* know and what you don't.

It's knowing where to go to find what you need to know.

And it's knowing how to use the information once you get it.

More people probably fail for the last reason than for lack of knowledge. In many occupations, the job itself can be a graduate school for anyone who keeps his eyes, ears, and mind open.

## PROPHET WITHOUT HONOR

*A minister and a safety man have a lot in common: Many people agree that they are right but so few follow their advice.*

This appeared in print somewhere, attributed to a former NSC staff member who regrets that he can't claim the credit for it.

Carman Fish

# Put PROVED dependability into interior FIRE ALARM systems!

You can provide today's *best* fire alarm protection for any industrial, commercial, or institutional building with a Gamewell FLEXALARM System. Thoroughly pre-engineered by the fire-protection professionals who developed the familiar "pull" fire alarm box, it assures the same unmatched efficiency and dependability *inside* buildings.

Precisely tailored to each installation, FLEXALARM is available as a coded or non-coded system, semi or completely automatic, with practically limitless possible combinations of annunciators, special drill, test, and alarm features. For example, it can be tied into the municipal alarm system at the curb; integrated with the sprinkler system; or automatic fire detection devices.

FLEXALARM is designed for unit-by-unit expansion depending on specific life hazards, fire defense plans and the growth of your plant. It's simple to specify, easy to install, efficient and economical. Gamewell will be happy to assist with fire detection engineering of new construction, expansion, or modernization, if desired. It's a service that gives you the benefit of over 100 years' experience with fire protection systems. Specify Gamewell . . . single source for engineering assistance and complete product line . . . maximum protection at minimum cost. Write THE GAMEWELL COMPANY, 1297 Chestnut Street, Newton Upper Falls 64, Mass.

Gamewell

*FIRST...WHEN SECONDS COUNT*

# The Industrial Enigma

## *Which is the best type of oxygen equipment to purchase?*

**by Arthur E. Miller,
Director of Research,
Scott Aviation Corporation**

By far the greatest percentage of respiratory emergencies involve persons who are breathing but who require respiratory assistance, either in the form of an oxygen-enriched inspiration, or at a slight positive pressure to assist inspiration and to increase the tidal volume and ventilation rate. For such cases, a good oxygen inhalator is preferable to a resuscitator.

### *Inhalator vs. Resuscitator*

By definition, an inhalator is a device which supplies oxygen (or a mixture of air and oxygen) for a subject to breathe. A resuscitator, on the other hand, is an apparatus which produces ventilation of the lungs by providing variations of pulmonary pressure in non-breathing (apneic) subjects.

### *Importance of Inhalator*

An inhalator can be used as an adjunct to resuscitation by the manual artificial respiration methods. But of greater importance, it can be used more effectively than a resuscitator in treating victims of smoke inhalation, toxic atmospheres, shock, asphyxiation, and coronary or pulmonary emergencies.

### *Inhalator Simple to Use*

The ideal inhalator should be simple enough so that it can be used properly, even by inexperienced personnel. It should require nothing more than opening the oxygen supply valve, placing the mask on the patient's face, and letting the patient breathe. It should supply the patient with sufficient oxygen to satisfy his bodily requirements, even for the dypneic patient, without requiring observation or manipulation by the attendant, of flow regulators, flow gages, bags, or other controls. It should be capable of assisting respiration by providing oxygen at a very slight positive pressure, sufficient to make inspiration easier, but not great enough to impede expiration.

**SCOTT INHALATORS**

**. . . give you the *Most* for your OXYGEN EQUIPMENT DOLLAR**

In its convenient carrying case, the Scott Inhalator is light enough to carry to the patient "on the run". Two simple operations (open valve, hold mask to face) and you are administering oxygen like an expert.

Oxygen flows at the rate required by the patient. Flow stops on exhalation to conserve oxygen. If greater breathing assistance seems necessary, a continuous flow of oxygen is obtained by simply pressing a button.

Administering oxygen with a Scott Inhalator requires no practice or training. There are no adjustments to make, no flow regulators to operate — everything is controlled automatically by the patient's breathing.

Surprisingly, you can place several Scott Inhalators around your plant for the same money you would spend for only one resuscitator.

SINCE 1932

**ION CORPORATION** 211 ERIE STREET, LANCASTER, N. Y.

*Canada:* Safety Supply Company, Toronto, Ontario, Canada
*Branches in all Principal Cities*

*Export:* Southern Oxygen Co., 250 W. 57th Street, New York 19, N. Y.

SCOTT AVIATION CORPORATION
211 Erie Street, Lancaster, N. Y.

I am interested in Scott Inhalators. Please send me a copy of your 6-page, 2-color Inhalator Brochure, together with prices.

NAME _____ TITLE _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

# CONSULTATION CORNER

**Questions on accident prevention, fire protection and occupational hygiene are answered by mail. A few are selected for publication**

**By L. C. SMITH, Industrial Department, NSC**

## Carbon Tet Extinguishers In Confined Spaces

**Question:** We are using carbon tetrachloride fire extinguishers in our school buildings and school buses. We have heard such extinguishers are not desirable for this use. What do you suggest?

**Answer:** Carbon tetrachloride vapors are toxic. When carbon tetrachloride extinguishers are used in confined spaces, you have a

hazard to personnel. The products of decomposition of carbon tetrachloride are highly toxic, even more so than the vapors from carbon tetrachloride in the original state. We would not recommend using such extinguishers in your buses or in a school building, since your personnel may not be familiar with the characteristics of carbon tetrachloride.

Carbon tetrachloride fire extinguishers are approved by nationally recognized testing laboratories. This means these extinguishers conform to certain specifications with respect to extinguishing fires. But this does not mean the extinguisher is safe to use under the conditions previously described.

In areas that can be thoroughly ventilated and where the operator can avoid breathing the vapors, these extinguishers are safe to use.

Since carbon tetrachloride extinguishers are usually used on Class B and Class C fires, a suitable substitute would be carbon dioxide or dry chemical extinguishers.

## Rendering Explosive Gases Innocuous

**Question:** Recently our Safety Advisor to the Motor Industry* came forward with what on the surface seemed to be a simple, workaday method of rendering explosive gases in empty drums innocuous. With many years' experience behind him and many friends still in the automobile trade, he stated that there was nothing new or original about his method, which was used by everybody in the garage business with any experience.

The method is simply to attach a piece of rubber tubing to the exhaust of a stationary car with its engine turning over, and to thrust the other end into the empty drum filled with petrol or oil vapour. He avers that the exhaust gas soon neutralizes any explosive vapours inside the drum. Neither he nor any of his compatriots in the industry have ever experienced or even heard of this method failing.

Another member of our field staff challenged this technique and stated that the presence of carbon monoxide in the exhaust gas would surely lead to an explosion, if an acetylene or electric torch were applied to the drum. We would like to have your opinion on the above subject.

**Answer:** Your safety advisor, no doubt, is stating his views honestly, but we would not recommend this procedure. The exhaust gases from an internal combustion engine contain carbon monoxide, hydrocarbons, and other organic materials.

By using these exhaust gases you are depending on the gases to inert the atmosphere of the container. This is extremely risky since these gases are not inert but contain, for example, carbon monoxide, which is an explosive gas.

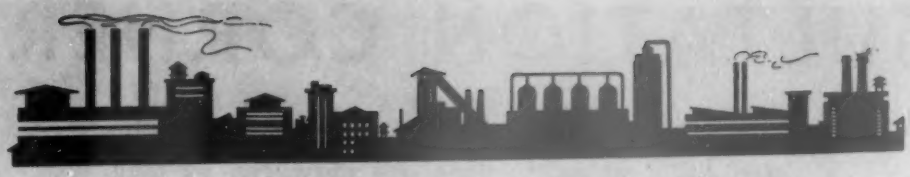
One way to make certain that a drum is safe for welding is to thoroughly clean the drum and then test for flammable vapors with a combustible gas indicator. If the indicator shows any trace of vapors, the drum is not safe for welding. The heat from the torch may drive off sufficient vapors from the inside of the drum to place the atmosphere in the explosive range.

It is also possible for the indicator to show a zero reading and, after the drum has been subjected to heat from the sun or other source, to have an explosive mixture in the container.

It is important to do the welding right after the test has been made and, where considerable welding is being done on large containers, to make periodic tests.

Available at the National Safety Council is a data sheet, "Cleaning Small Containers That Have Held Combustibles." This publication outlines safe procedures for cleaning small drums and containers.

*This question came from Pretoria, South Africa.



# news briefs

### How's that again?

Two seafaring men were hurt in this accident: one man was assigned the duty of faking down a chain while a tender was relieving a lighted buoy. The main and whip hooks were being used. The whip block, when passing the main, became entangled with the holdown line on the main hook, tripped the main hook, causing the bight of the chain to fall to the deck. The captain thought they should have used a spring-loaded mousing hook. He might be right.

### Fall shoe closeout

During a two-week sale of safety shoes, Allis-Chalmers employees bought a record number of pairs—2,563. This figure was an all-time high. On the most productive day, 490 pairs were sold.

### Used his head

A plant manager, after a long delay, had a sprinkler head installed in a motor room. Within a short time, a motor caught fire and was extinguished by the newly-installed sprinkler. The manager was considerably more prompt in complying with the remaining fire prevention recommendations.

### That 110-V tingle

There are still some electricians on the job who think it's possible to get used to 110 volts. They test circuits with their calloused fingers and boast of their immunity to mere domestic current. While they might do this indefinitely and get away with it, a less experienced imitator with thin skin and sweaty hands might get the shock of his life.

### Bypassing the canister

A man working with a highly toxic substance was discovered smoking a pipe while wearing a respirator. It isn't easy, and it doesn't make sense, but it can be done.

### Controlling beryllium

As the use of beryllium grows, especially in the aeronautical and atomic energy industries, measurement of the hazard is developing, too. Air sampling, both in the breathing zone and in the general air, is a familiar method that can be used. For continuous readings, scientists at Harwell, England have developed a monitor using a spectrometer that gives both instantaneous and peak amounts released. The swipe test involves wiping a measured area, then analyzing the wiping paper. The Beryllium Case Registry shows no acute or chronic cases of beryllium poisoning where present day exposure standards have been maintained.

### Smog? Burn it

Crankcase fumes, as well as exhaust, cause air pollution. A new device that feeds the breather emissions into a car's intake manifold eliminates this source of unburned hydrocarbons. U. S.-built cars for sale in California will be equipped with the inexpensive system.

### Welding and ozone

High amperage plus inert gas often adds up to toxic amounts of ozone. The highly concentrated infrared and ultraviolet light given off in some inert gas arc welding causes ozone to form near the arc. One such operation made several welders ill before the machines were equipped with ventilation hoods that would not disturb the inert gas shield.

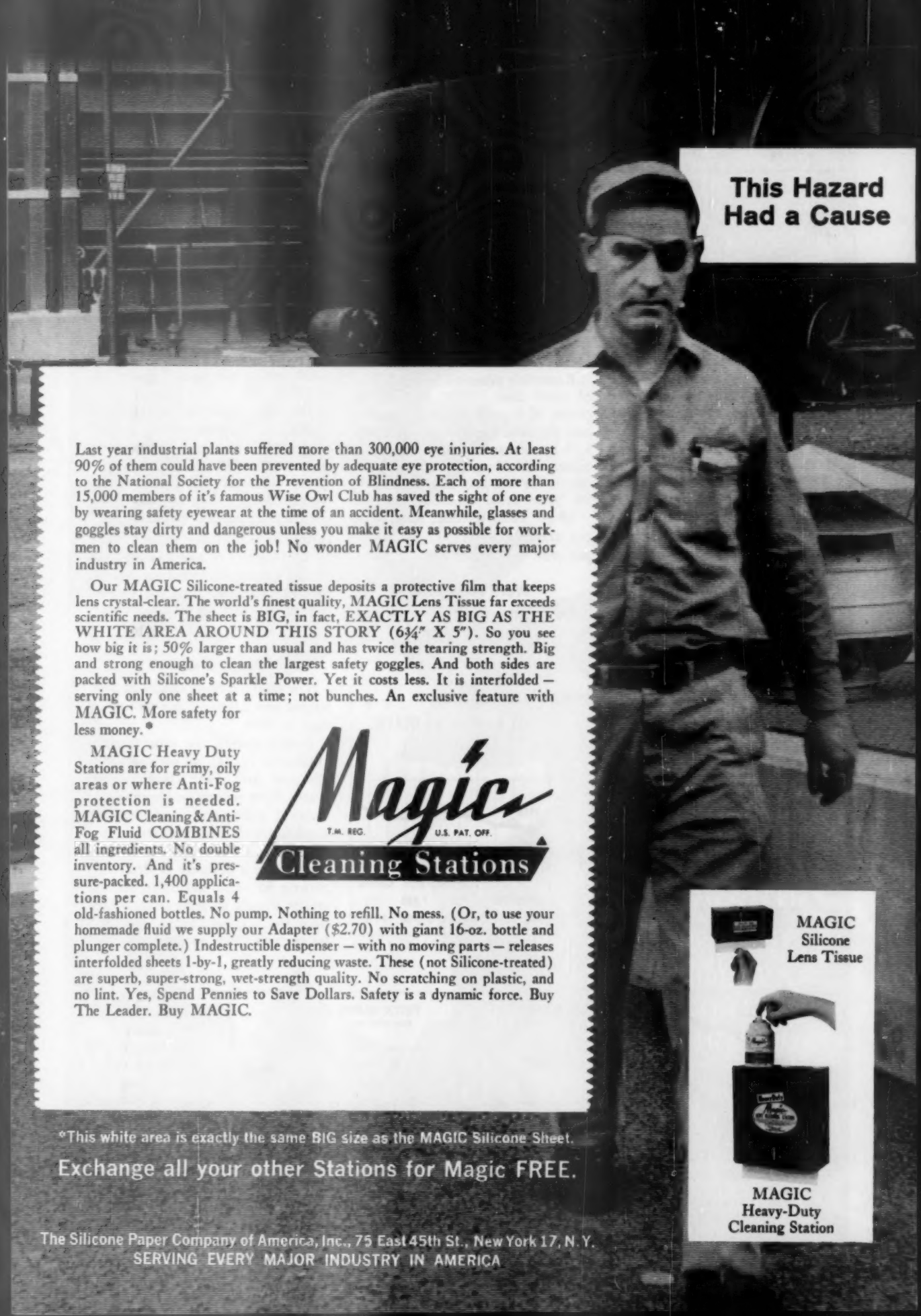
### Are accidents funny?

One company made a roundup of off-the-job accidents and came up with such descriptions as: running barefoot in the house, falling off a deer stand, falling through a ceiling, falling off a chicken coop, jumping out of bed, kicked by a bull, finned by a fish, gored by a cow, spurred by a rooster, pecked in the eye by a chicken, riding a horse between two close trees, cut by an oyster shell, falling asleep under a heat lamp, stepping into hot ashes, splashed by hot soup, and run over by a golf scooter.

Jim Saul



Circle Item No. 6—Reader Service Card →



# This Hazard Had a Cause

Last year industrial plants suffered more than 300,000 eye injuries. At least 90% of them could have been prevented by adequate eye protection, according to the National Society for the Prevention of Blindness. Each of more than 15,000 members of it's famous Wise Owl Club has saved the sight of one eye by wearing safety eyewear at the time of an accident. Meanwhile, glasses and goggles stay dirty and dangerous unless you make it easy as possible for workmen to clean them on the job! No wonder MAGIC serves every major industry in America.

Our MAGIC Silicone-treated tissue deposits a protective film that keeps lens crystal-clear. The world's finest quality, MAGIC Lens Tissue far exceeds scientific needs. The sheet is BIG, in fact, EXACTLY AS BIG AS THE WHITE AREA AROUND THIS STORY (6¾" X 5"). So you see how big it is; 50% larger than usual and has twice the tearing strength. Big and strong enough to clean the largest safety goggles. And both sides are packed with Silicone's Sparkle Power. Yet it costs less. It is interfolded — serving only one sheet at a time; not bunches. An exclusive feature with MAGIC. More safety for less money.*

MAGIC Heavy Duty Stations are for grimy, oily areas or where Anti-Fog protection is needed. MAGIC Cleaning & Anti-Fog Fluid COMBINES all ingredients. No double inventory. And it's pressure-packed. 1,400 applications per can. Equals 4 old-fashioned bottles. No pump. Nothing to refill. No mess. (Or, to use your homemade fluid we supply our Adapter ($2.70) with giant 16-oz. bottle and plunger complete.) Indestructible dispenser — with no moving parts — releases interfolded sheets 1-by-1, greatly reducing waste. These (not Silicone-treated) are superb, super-strong, wet-strength quality. No scratching on plastic, and no lint. Yes, Spend Pennies to Save Dollars. Safety is a dynamic force. Buy The Leader. Buy MAGIC.

**Magic**
T.M. REG. U.S. PAT. OFF.
**Cleaning Stations**




*This white area is exactly the same BIG size as the MAGIC Silicone Sheet.

**Exchange all your other Stations for Magic FREE.**

The Silicone Paper Company of America, Inc., 75 East 45th St., New York 17, N.Y.
SERVING EVERY MAJOR INDUSTRY IN AMERICA

# THE ACCIDENT BAROMETER

**Prepared by the Statistics Division, National Safety Council**

THE DEATH TOTAL for September 1959 was 7,500, about 100 more than in September 1958. An increase occurred in home accident deaths, while deaths in the other classes numbered about the same as in 1958.

The nine-month death total was 68,000—2 per cent above 66,700 in 1958. There were increases in motor-vehicle, public non-motor-vehicle, and home accident fatalities. There was no change in work deaths.

The estimated death rate for 1959 based on the nine months reported is 53.6 per 100,000 population. This would be 2 per cent above the 1958 death rate of 52.5.

### Motor-Vehicle Deaths

The motor-vehicle death total for September was 3,330, the same as in September 1958.

Deaths for nine months totalled 27,140—3 per cent more than 26,270 in 1958. The nine-month death rate per 100,000,000 vehicle miles was 5.2, a decrease of 2 per cent from 5.3 in 1958.

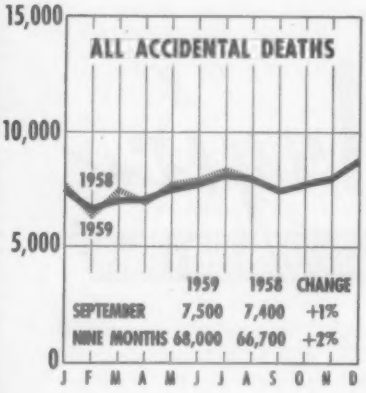
Of the 48 states reporting for nine months, 14 had fewer deaths than in 1958 (including Alaska), and 34 had more deaths. States with the greatest improvement for the first nine months of 1959 were: Maine, —29 per cent; Louisiana, —20 per cent; South Dakota and Idaho, each down 17 per cent.

Reporting cities with populations of more than 10,000 had an increase of 4 per cent for September and the nine-month period. Cities with more than 200,000 population having the largest reduction in deaths for the first nine months of the year were: Jacksonville, Fla., —39 per cent; Wichita, Kan., —36 per cent; and Norfolk, Va., —33 per cent.

### Work Accidents

Deaths from work accidents numbered 1,100, no change from September 1958. The total for nine months was 10,000, also no change from 1958.

The September frequency rate per 1,000,000 man-hours in 18 sectional accident prevention contests conducted by the National Safety Council was 5.98, an increase of 6 per cent over 1958. The nine-month rate was 5.43, also up 6 per cent.




### Public Deaths

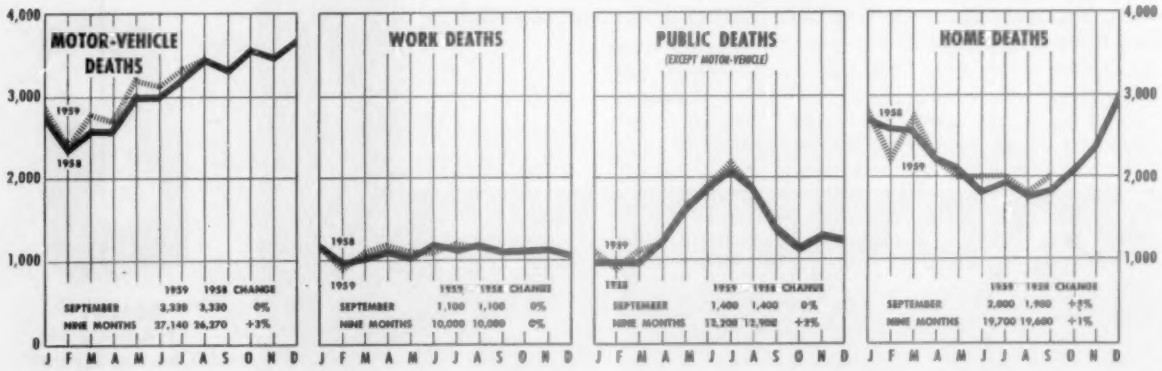
Deaths in September from public non-motor-vehicle accidents totalled 1,400, about the same number as in 1958.

The nine-month death total was 13,200, an increase of 2 per cent over 1958. There were more deaths from burns, falls, and unspecified public accidents and fewer deaths from drownings, firearms, and transportation accidents. Decreases occurred in deaths of young people 15 to 24 years of age and persons 25 to 44 years old. Other age groups showed increases, with the largest change recorded for children under 5 years of age.

### Home Deaths

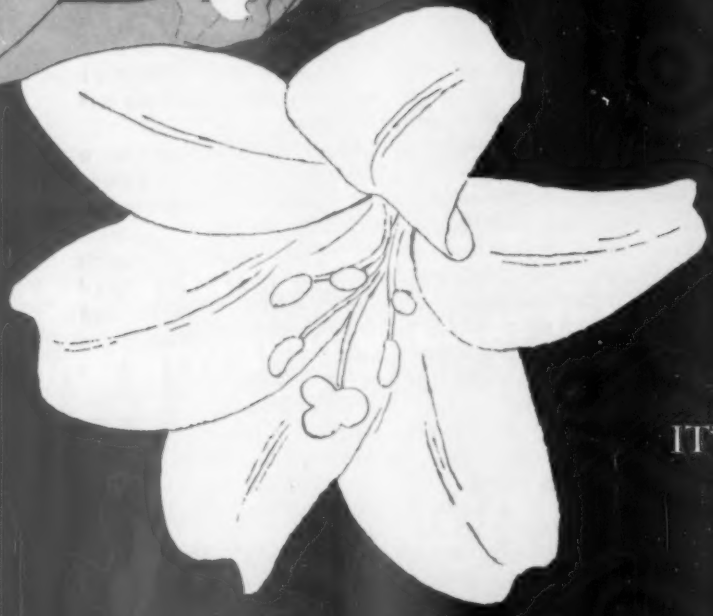
The total for home deaths in September was 2,000—5 per cent more than in 1958.

Deaths during the nine months numbered 19,700, an increase of 1 per cent over 1958. Increases in deaths from poisonings, burns, mechanical suffocation, and firearms accidents were nearly offset by decreases in poison gases and falls. Aside from a decrease in deaths of persons 65 years and older, all age groups showed increases over 1958, with the largest change recorded for persons 25 to 44 years old.



LILY WHITE

# PAX CREME SOAP



IT'S DIFFERENT

IT'S SUPERIOR

IT LEAVES THE SKIN MOIST, VIBRANT, ALIVE AND VELVETY SMOOTH

IT'S A DEODORANT

IT'S A MODERN WASHROOM MIRACLE

**PAX**

DEVELOPED, FORMULATED AND MANUFACTURED BY:

By BILL ANDREWS

II. The Readers Speak Up

*(Fiction)*

# What About Bert?

AUTHOR'S NOTE: *In the November installment of the* Diary, *I left the safety engineer (the "I" of this serial) debating whether to hire Bert Harding as one of his assistant safety men.*

*Bert was described as 27, a natural leader among his fellow workers in the shop. He developed an enthusiastic interest in accident prevention and waged a successful campaign against horseplay in the shop. Six months ago he was made a sub-foreman. He has a high school education, a night-school course in mathematics, and a high degree of native intelligence.*

*I threw this question into the laps of our readers, and I am deeply grateful that, by press time for this issue, 22 of you had written me opinions on the subject. Some of these discussions were lengthy, and all were thoughtful.*

*I am also appreciative that many of the writers added notes of kind comment on the* Diary *in general.*

*I regret that space does not allow replies to be reproduced in full. For any loss that condensation has produced, I am responsible.*

* * *

EIGHTEEN readers out of 22 wrote favoring the employment of Bert Harding as assistant safety man. Two opposed his hiring, and two others gave qualified answers.

To start with the minority viewpoint, John L. Bayard, Merck & Co., Ltd., Valleyfield, Que., wrote:

"Leave Bert Harding where he is. He can be used as a third safety man on the job; that is where you need a safety man. As long as you are at it, try and find another safety-conscious worker, somebody who could be taught and further his studies in safety engineering. Bert is on his way up anyway; why make him enter a blind alley?"

Charles D. Mason, safety engineer, Apparatus Division, Texas Instruments, Inc., Dallas, Tex., and a member of ASSE, also believes Bert is on his way to the top, but had different reasons for opposing his employment. He said:

"Bert appears to be excellent material for a general foreman or even plant superintendent. In such a capacity, with your aid and advice, he'll be in a position to take the positive, direct action that he'd never be able to take in your staff job. He's on solid ground and headed in the right direction. Help him get there, and he'll be there to catch the ball when you throw it and carry it clear across the line!"

Mr. Mason also spoke up for professional standards:

"Safety engineering would have been recognized as a profession long before this, if there were not so many men in the field whose right to the title of 'engineer' with its professional connotations is nonexistent. This is not to belittle their efforts; they have made significant contributions, but their progress has been slow, painful, and marked with a series of mistakes by which they learned the hard way and which have distorted the image of the professional safety engineer in the mind of top management. Bert's lack of educational background will limit the rate at which he can absorb new stuff.

"Have you got time to give him a short course in engineering fundamentals every time you want to introduce a new concept to him? If he does not understand it himself enough to talk intelligently about it with your engineering department, how could you expect him to make much of a contribution in an engineering planning session?"

Turning to the pro-Bert party, we find a wide range of comments. Says B. S. Harris, safety supervisor, Air Reduction Chemical Co., Calvert City, Ky.:

"It's people like Bert who will enable us to come near to perfection in regard to safety. He has the necessary tools to make an excellent safety man."

C. L. Henry, director, Accident Prevention Dept., Commercial Standard Insurance Co., Fort Worth, Tex., offers to hire Bert himself if the safety engineer of the *Diary* refuses to hire him. He writes:

"This boy, Bert, is a true disciple of safety from the heart out and will develop habits to save life and property. He is a worthy crusader for safety."

John Van Bendegar, postmaster at Kenosha, Wis., says "Bert's ability to learn would offset his lack of a college education. Never hold a man to one position just because he has the ability to fill that job well. Give him a chance to demon-

—*To page 92*



Circle Item No. 8—Reader Service Card

# DUST PROTECTION

*... in the palm of your hand!*

## *New* PULMOSAN RESPIR-ETTE (trade mark)

*A mask for nuisance dusts and paint overspray*

**LIGHTWEIGHT, LOW-COST**

**WITH NEW THROW-AWAY FILTERS**

Here is Pulmosan's "ounce of prevention" against non-toxic nuisance dusts and paint overspray. The Respir-ette mask weighs less than one ounce, provides protection at minimum cost. One-size plastic body fits all faces comfortably and does not interfere with the wearing of spectacles. It's washable and non-irritating. New plastic based throw-away filters are easily replaceable, inexpensive and efficient. Respir-ette . . . today's answer for an inexpensive mask to protect against nuisance dusts and paint over-spray.

Write for details

**Pulmosan** SAFETY EQUIPMENT CORP.

644 Pacific Street, Brooklyn 17, New York • Sterling 9-0200
1007 Washington Avenue, St. Louis, Mo. • Chestnut 1-9393

*"Everything for Industrial Safety"*

*Modern glove-testing procedures give positive proof . . .*

# You cut costs when you improve protection

Safety-minded management never doubts that better protection and lower costs are firmly linked. Both benefits consistently result from better quality safety equipment.

Safety directors have often proved there are wide variations in the quality of protective work gloves when compared in actual on-the-job tests.* For example:

**Case No. 640:** *Mixing ammonia solutions, an Edmont-recommended glove gave 5 times longer protection than the ordinary plastic gloves previously used . . . cut gloving costs 79%.*

**Case No. 672:** *Operating an automatic welder, an Edmont-recommended glove gave 2 times longer protection than the expensive leather gloves previously used . . . cut costs 83%.*

**Case No. 697:** *Operating a metal shear, an Edmont-recommended glove gave 33⅓% longer protection than the leather palm gloves previously used . . . cut costs 52%.*

Thousands of similar cases have focused attention on Edmont as the originator of the modern safety practice of fitting work gloves to the job by test procedure.

For example, the "Snorkel" glove, which was recommended and supplied for the above tests, is a uniquely flexible coated glove with excellent wet grip and resistance to oils, acids, caustics, solvents and abrasion. Its coating, of a specially compounded vinyl that will not chip, crack or peel, is applied with an *Extra*coat on the palm side which adds 20% longer life. Its two-piece jersey lining, with seamless palm, gives maximum hand comfort.

**FREE TEST OFFER TO LISTED FIRMS:** We make many types of plastic, neoprene and natural rubber coated gloves to fit different job requirements. Tell us your operation, materials handled, temperature condition. We will recommend correct glove and send samples for on-the-job testing. Write Edmont Manufacturing Company, 1205 Walnut Street, Coshocton, Ohio. In Canada, write MSA, Toronto.

**Company names and full details on request.*

**Edmont**

JOB-FITTED GLOVES

Circle Item No. 9—Reader Service Card

# SMALL BUSINESS and ASSOCIATIONS

By RAYMOND C. ELLIS, JR., and JOHN T. CURRY

Small Business Program Staff, National Safety Council

## NARW Receives NSC Award

The National Safety Council Association Safety Award is accepted for the National Association of Refrigerated Warehouses by Frank II Collier (right), Central Cold Storage Company, Chicago, during the 47th National Safety Congress in that city. Making the presentation is John M. Convery, Employee Relations Division, National Association of Manufacturers, and a member of the award judges committee.

In presenting the award, Mr. Convery said: "The National Association of Refrigerated Warehouses, second-time winner of the National Safety Council's Association Safety Award, has previously been recognized in 1955. The association's program includes reduction of work injuries and a well-balanced group of safety activities. The association's injury frequency in 1958 was 24.9 disabling injuries per million man-hours of work. This is an all-time low for the industry and 15 per cent under the 1957 record.

"In addition to this accomplishment, the association can boast of its unusually fine publicity program, enthusiastically supported by a very fine safety committee. The association has a complete program of safety bulletins, contests, poster service, and technical safety hints."

## Motivate Workers Toward Safety

The Can Manufacturers Institute Safety Report of Oct. 10, 1959, carried an article titled, "Motivation." This is an important subject in our area. The necessity for management to indicate to the employee and to others that it feels personal responsibility has prompted us to print the article in its entirety:

I think we all recognize that comic strip juvenile who brings out laughter over his antics. We recall one in particular when his long-suffering parents attempted to feed him something he didn't like. He bristled up and said, "Motivate me."

It is not the purpose of this piece to delve deeply into motivation. Let's leave that to those who probe the subject deeply. But there are some pointers we can pass along which will help you to move people to safety.

An employee doesn't have to have a Super-Duper Road Stopper Car or a pie-in-the-sky existence to feel important. A sense of recognition, a feeling of acceptance, and the belief that he truly belongs to and is a part of his environment will do very nicely. If you recognize his good work, give him fair and equal treatment, and consider him as an individual, you will have gone a long way toward earning his respect and getting him pointed in the right direction.

No one wants to be ignored. Neither does a person want to be identified with something that is unpleasant or unfavorable. We like to be given individual attention, to be a part of that which contributes to the accomplishment of our objectives. In short, we do not believe in anything that detracts from our station as an individual within a collective undertaking.

As leaders, you can rest assured that your practice of the following will to a great degree swing employees into a wholesome course of action:

1. Make him feel important by taking the time to explain that what he does contributes to the over-all success of the plant.
2. Be considerate of his interests, and comment about them.
3. Try to think up a variety of little challenges related to safety, quality production, housekeeping, etc. Then give him recognition for his achievements in those areas.
4. Do not set him too far above his group, since this may be limited later on by the acceptance he receives from his fellow workers.

## Restaurant Group Sparks "Safety at Your Service"

Combining forces with the Division of Safety and Hygiene, Industrial Commission of Ohio, the Ohio State Restaurant Association is conducting a "Safety at Your Service" campaign. Restaurateurs apply for participation in the plan which qualifies them to seek assistance from staff safety advisors from the commission at no cost to them.

Special posters, training course, and handout materials are being prepared by the association and the industrial commission for use with the program.

Robert L. Henry, executive secretary of this restaurant association, says, "Our members have responded to this program with a high degree of enthusiasm and participation. We hope this will be a continuing service to the restaurateurs of Ohio!"

# Tension

## *and how to live with it*

**We can't avoid tension, but when understood and controlled, it serves a useful purpose**

**By EARLE S. HANNAFORD, Ph.D.**

Safety Engineer, Long Lines Department, American Telephone and Telegraph Company, New York; Vice-President for Industry, National Safety Council

TENSION is a word we hear so frequently that it creates tensions of itself. It has become a demon that haunts and curbs our normal living. It is fraught with fear of living. And when we get caught in the mad rush to escape tension by avoiding life itself, it is time to call a halt and strip this phobia of its fangs.

When the fear of living has become greater than the fear of death, we have lost contact with reality—the reality of purposeful and rewarding living which is safety's objective.

But wait, you say. Everyone knows that the increase in severe mental illness is the by-product of modern living. Stress is filling our mental hospitals.

This is the first fang of the tension phobia that I want to strip from its mouth. This fallacy was started more than 100 years ago by two early psychiatrists. It has no basis in fact.

Recent studies by Drs. Goldhammer and Marshall of Rand Corporation proved conclusively that, contrary to common belief, severe mental illness, such as psychosis, occurs age for age up to 50 at the same rate now as 100 years ago. The increase in the total number of such cases is due primarily to population increase and better diagnosis.

The critical problem of our day is the widespread increase in the emotional upsets and tensions which persistently interfere with everyday living for so many people and which so often is the hidden, unrecognized thing that triggers accidents.

Let's take a calm, reflective look at tension and what it really is and does. We'll follow that with some practical, usable steps we can take to offset and alleviate the undesirable tension factors in safety attitudes and accidents.

As we discuss the nature of tension, its components and how it operates, let us keep these three things in mind:

1. The fact that tension exists is not what counts; it is the nature of it and how we resolve it.

2. To live normally, we must live under some tension and at times be dissatisfied, angry, or depressed because we must work to live, to achieve something, and to retain our self-esteem.

3. There is a significant difference between constant or intolerable tension and the stressful situations that occur from time to time. Constant or intolerable tension calls for a revaluation of and a change in our activities, attitudes, and emotions if we are to avoid physical as well as mental or emotional injuries.

**Tension, anxiety and fear.** Before we look into the fascinating story of tension, we should be able to define it and distinguish between it and *anxiety* and *fear* which are so closely related to it:

*Tension* is a state of alertness or tautness which stimulates a greater than normal or an abnormal readiness to respond physically, mentally, and emotionally.

Presented before the Washington Chapter, American Society of Safety Engineers, October 6, 1959.

FIGURE 1

HOW PHYSICAL TENSION INFLUENCES PERFORMANCE

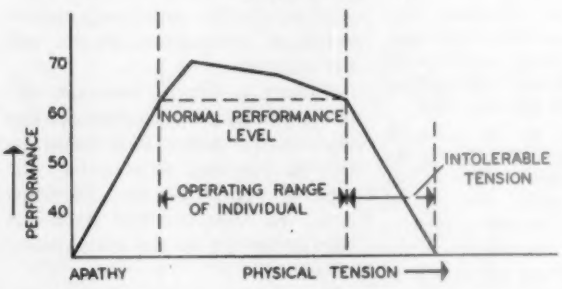
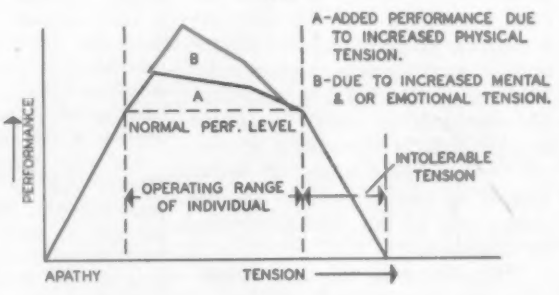



FIGURE 2



*Anxiety* is a generalized, nonspecific feeling of apprehension and foreboding concerning the future. It is fundamentally emotional.

*Fear* is usually related to something specific in the present or future and is basically mental. It may develop emotional overtones in some situations, since the dividing line between them is not clear cut. Both fear and anxiety operate to increase physical and psychophysical tension, i.e., body or muscular tension.

Since tension has these three components—physical, mental, and emotional—let's get the facts straight about physical tension first. It is the means through which we take action whether or not the other two may be present.

Figure 1 is a significant and informative diagram typical of the relationship between physical tension and how well we perform. That is, how well we work at jobs and how well we learn and live.

All of us have a range of tension we can live with. Below it we cannot operate effectively. Beyond it our performance falls off and finally ceases.

But here's the startling thing research has shown. Under added physical (muscular or psychophysical) tension, our performance increases above normal. There is a point at which we work most effectively.

From our own experiences, we know we perform best when we are striving and prepared, just as a runner gets set for the starting gun.

In Figure 2 the mental and emotional components have been added without separating them.

When mental and emotional incentives, i.e., tension components, are added, performance again increases within the individual tolerance or operating range. In fact, it was found that less experienced men with such incentives produced significantly more than more experienced men working without the mental and emotional incentives.

Recent research in connection with automation has shown that just sitting watching dials and waiting for a signal to act leads to a state of extreme relaxation of physical, mental, and emotional tension similar to narcolepsy. When the signal for action comes, it goes unnoticed or is recognized too late.

Physical muscular tone and mental and emotional tone are maintained only through use, i.e., putting them under tension. Persistent and continuous relaxations of them can result in atrophy or loss of use. Neurotic loss of hearing due to lack of emotional tone in one's life is a dramatic illustration of the extremes to which it may go.

When we have no demands for action, tension decreases towards apathy, as indicated on the diagrams showing the relationship be-

*—To page 54*

### THREE STEPS IN LIVING WITH TENSION AND OFFSETTING ANXIETY AND FEAR

**I. Provide right climate.**

1. **Be courageous and cheerful and face up to problems.**
2. **Plan a course of action, making decisions without undue delay.**
3. **Set up goals and provide incentives.**
4. **Get or give adequate "know-why" and "know-how" in training.**
5. **Authority figures must know and play their roles adequately.**

**II. Establish and follow a security pattern.**

1. **Take positive action without hesitation.**
2. **Use reasonable self-discipline and provide firm, understanding discipline and guidance for others.**
3. **Develop and maintain good safety attitudes.**
4. **Match up tension tolerance and job assigned.**

**III. Bleed off "emotional static" as it builds up.**

1. **Maintain a good sense of humor.**
2. **Talk things out and listen understandingly.**
3. **Learn to understand, accept and live with authority.**
4. **Play the role assigned, whether leader or follower.**

FIGURE 3

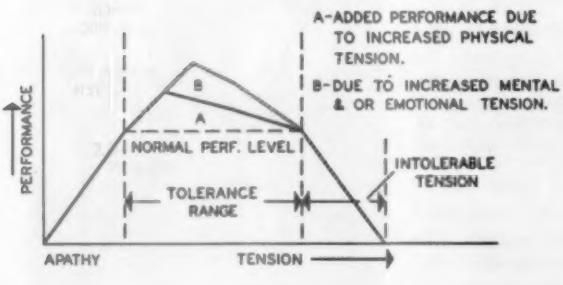
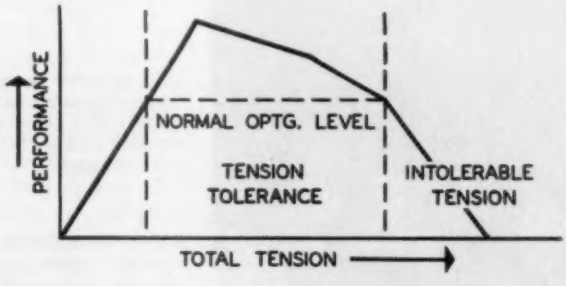


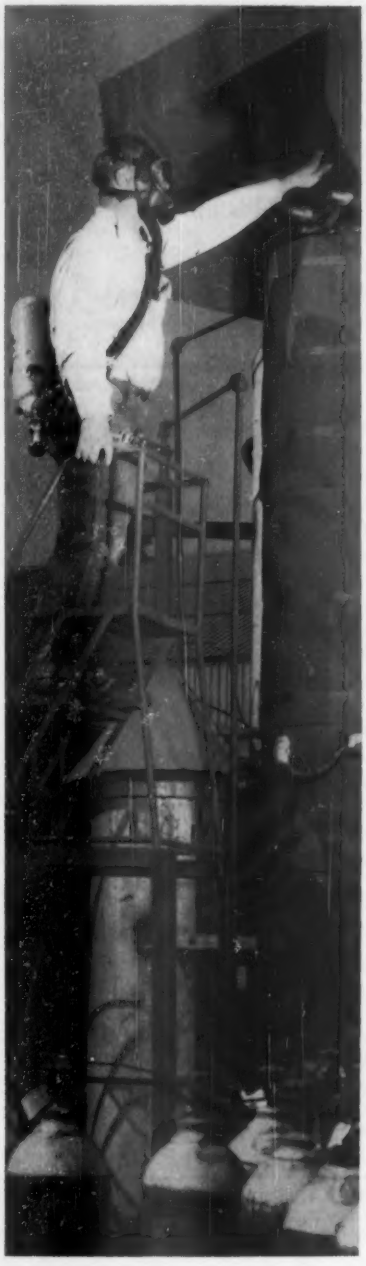

FIGURE 4



# Small-Scale Operation, Large-Scale Hazards

**By V. A. JONES**
Safety Administrator,
Technology Department,
Union Carbide Metals Company

**Between laboratory and factory the safety man meets some king-sized headaches in the pilot plant**



MENTION research and development to a layman and he will usually conjure up a vision of scientists working, sometimes with hazardous materials, in white coats in a shining laboratory. Research is partly that, but the layman usually fails to consider the plant-scale experiments needed to carry theories from the test tube to commercial production.

And it is in this area, this transition from bench to plant, that the safety administrator of a technology organization is plagued with his most persistent headaches. A reaction that produces a harmless pop in a test tube may turn into a major explosion in the pilot plant.

At the Technology Department of the Union Carbide Metals Company, division of the Union Carbide Corporation, at Niagara Falls, N. Y., probably the largest of its kind in the world, this fundamental problem is complicated by the nature of the experiments conducted.

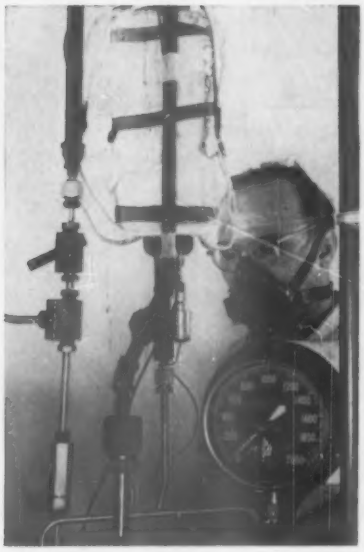
In seeking to unlock the secrets of metals, scientists, engineers and technicians are constantly required to work with gases, liquids, and solids that may be flammable, toxic, corrosive or radioactive. In addition, since its research consists of constant experimentation with the unexplored, difficulties are experienced in establishing a system of job safety analysis.

Yet, despite the hazards and problems confronting the Technology's 716 employees, there has not been a disabling injury in the almost 2,500,000 man-hours worked since the Metals Research Laboratories and the Product and Process Development Department were united under the single heading of the Technology Department in January 1958.

Union Carbide Metals is proud of Technology's record and the awards the record has earned—the National Safety Council's Award of Merit, the Manufacturing Chemists' Association Certificate, the State Insurance Fund's Accident Control Engineering Award, and the Union Carbide Bronze Plaque Award.

Left: Operator wears air line respirator inside enclosure where toxic compound is made. Before entering, operation must be stopped and enclosure decontaminated and ventilated.

Right: The author (center) consults with research engineer and a design-and-construction engineer on safety devices for new equipment laid out on blueprint.



An operator adjusting a valve on equipment making highly toxic compound wears self-contained breathing equipment as protection against possible leak.

Below: Machine operator prepares to lock and tag handle of electrical control before starting repair work. Present are stenciled warnings asking: Have you pulled and tagged your switch?

A lab technician adjusts a petcock on experimental lab equipment in working with flammable liquid under pressure. Man works under well-ventilated hood and with face and body protection.

Compiling the record under Technology's unusual circumstances required tight organization and strict safety supervision with the safety administrator consulted on many phases of the operations.

Pertinent reports, background and information flow to his desk, providing him with general knowledge of the various operations. Among the data that reach him are monthly progress reports on new products and processes being initiated throughout the Technology Department.

From the information in progress reports, the safety administrator determines where his advice is most needed. He then checks with the engineer or technical supervisor to make certain all precautions are observed. For example, if he notes the use of beryllium in a particular operation, he will recommend the use of gloves, lab coats and respiratory equipment by those handling the powder.

Similar consultations take place with the construction design and operating engineers charged with the design of new equipment and the planning of new processes. As a unit in this team, the safety administrator checks on equipment guards, escape exits, safety valves, ventilation, escape routes, isolation of flammable gases, head clearances, stairways, fire equipment and emergency equipment like air packs in the vicinity of toxic gases.

One of the basic safety rules in Technology Department calls for the locking and tagging of electrical controls before starting work on any equipment. Each electrical control is plainly labeled to show the equipment it serves.

Operators are trained to make certain that electrical controls of auxiliary equipment must also be locked and tagged to prevent accidental starting of the auxiliary equipment. Warning signs, advising the operators and maintenance men to make certain the controls are locked and tagged, are stenciled on electrical panels in the operating buildings.

The safety administrator is also given the benefit of studies of dangerous materials and conditions constantly under investigation in the various laboratories. After receiving a copy of a particular report, the safety director goes over his chart of activities to determine where the material may be in use or where the condition may apply. It is then his responsibility to issue proper warnings to supervisors.

The same care with potentially hazardous conditions is, incidentally, also carried on to Union Carbide Metals' customers. Before any new product is placed on the market, a toxicity and hazard report is prepared by the company.

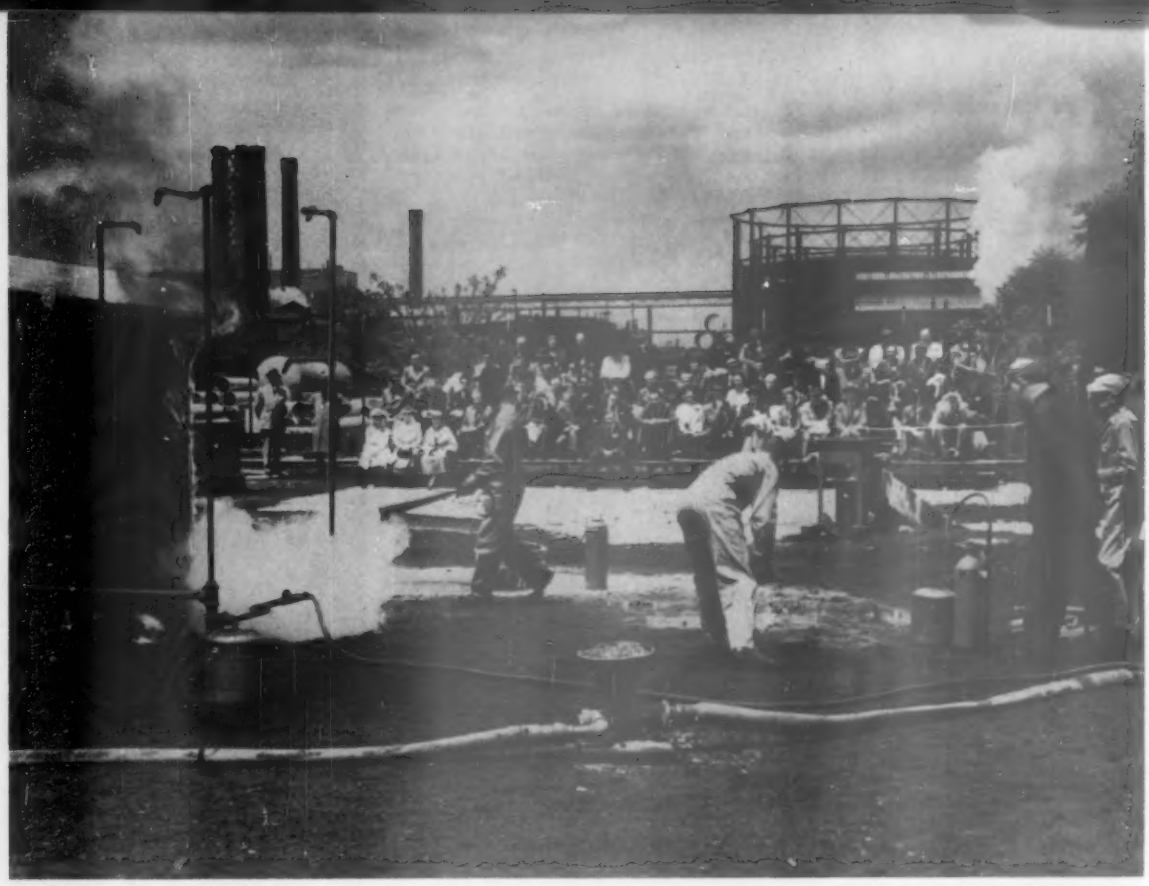
Using this report as a basis, a data sheet is prepared for the customer. This sheet furnishes the buyer with pertinent information on the product and a description of precautions to be taken, if the product has potential danger. Each container of such material also bears a clear warning label.

To obtain the safety administrator's help in preventing recurrences after an accident has taken place (there has not been a serious one in several years), he is given an accident report after each mishap, no matter how trivial. This report includes the name of the injured man, the name of his foreman and a description of how the accident happened.

From a study of this information, the safety administrator reviews the proposed remedial precautions and recommends additional precautions, if they are necessary. A copy of the report is returned to the foreman for follow-up action.

The fact that the safety administrator is kept abreast of activities throughout Technology buildings should not suggest that his activities are confined to information he

*—To page 115*



A fire-protection program needs trained men as well as up-to-date equipment. Here members of Consolidated Ediscn's Safety Bureau are demonstrating extinguishing techniques on a simulated electrical fire.

# Fire Insurance Costs High?

**Make a careful check of your fire protection program. It may show you a few ways of bringing down the rates**

**By WILLIAM E. ROSSNAGEL**

Safety and Fire Protection Engineer, Consolidated Edison Company of New York.

SEVERAL YEARS AGO, fire destroyed a gigantic General Motors transmission plant at Livonia, Mich. Total direct and indirect costs approached an estimated one billion dollars. And this modern one-story building covering 32 acres had been considered *fire-resistive!*

Initial direct loss attributed to this fire was $55,000,000. Afterward, thousands of employees found themselves out of work. Reduced purchasing power by these people and their families lowered sales and profits for local merchants. And the city of Livonia experienced a loss of $55,000,000 in property value on which taxes had been paid. So local taxpayers had to dig deeper.

Since automobiles can't run without transmissions, other GM plants had to curtail production to keep pace with the limited number of transmissions produced. Some of the parent firm's employees in other parts of the country were laid off. And companies supplying subassemblies—carburetors, batteries, and tires—had to slow down operations and lay off workers. Again, these shutdowns affected the economies of the various cities.

GM dealers throughout the nation lost sales on new cars—300,000 units according to *Business Week* magazine. This meant loss of commissions to salesmen. In turn, these people spent less for non-essential commodities. And many prospective buyers, unable or unwilling to wait for resumption of production, purchased other makes of cars. So fire costs skyrocketed toward the billion-dollar mark.

Now it might be argued that the huge size of this Livonia plant isn't typical of what could happen in a medium or smaller plant. So consider *hypothetically* a two-story loft building of brick and wood joist construction, occupied by a manufacturer of precision instruments.

Presented before the 29th Annual Safety Convention of the Greater New York Safety Council.

This imaginary building and its contents were valued at about a million dollars. Through luck, rather than through any effort on the part of management, the plant had suffered no serious fire loss in a number of years.

One day workers discovered a small fire in a pile of discarded, empty paper cartons in a corner. These men tried unsuccessfully to put the fire out before finally calling the fire department. And by using the wrong type of extinguishers on blazing cutting oil, they had even caused the fire to spread.

Considering the million-dollar value of this hypothetical plant, the direct fire loss or damage didn't appear large. But there were indirect losses unforeseen by management and not covered by insurance. Also, at the time of the fire, all employees were gone from the plant for several hours. Production halted, but the workers' pay continued. And during the remainder of the day little work was accomplished. A crew of janitors and maintenance men had to work overtime for several days cleaning up the mess.

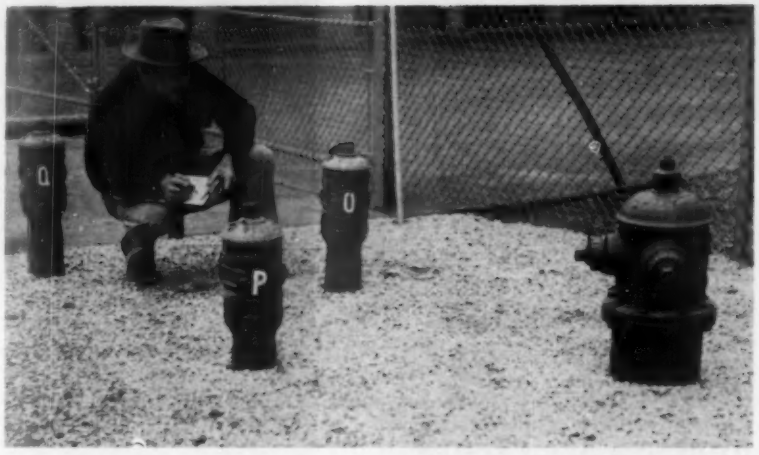
The damaged machines were of special design and occupied a critical position in production of the finished products. Management and top supervision devoted much time to the purchase of replacement machines. Clerks took more time making out orders for building repairs and replacement equipment. The receiving department had to handle the new machines on arrival. Mechanics were required to install them—all of this labor at prevailing wage scales.

Several months elapsed before the new machines were in operation. In the meantime, shipments of products were curtailed because of a lack of vital parts for their assembly. Impatient customers cancelled orders and obtained the instruments elsewhere. Many such customers were lost permanently.

Faced by several months' unemployment after the fire, a number of experienced craftsmen sought other jobs, another permanent loss. This required the hiring and training of inexperienced men as replacements. Training errors by the new workers caused scrapping of many valuable parts. And another

—*To page 78*

Maintaining a fire watch on all cutting and welding operations curbs one of industry's serious fire hazards. (Champion Paper and Fibre Co.)




Weekly checks of standpipes and valves which feed sprinkler systems assure their functioning when needed. (Hiram Walker, Inc.)

Portable extinguishers, readily accessible, plainly labeled for type of fire, and inspected regularly, provide a first line of defense. (National Cash Register Co.)

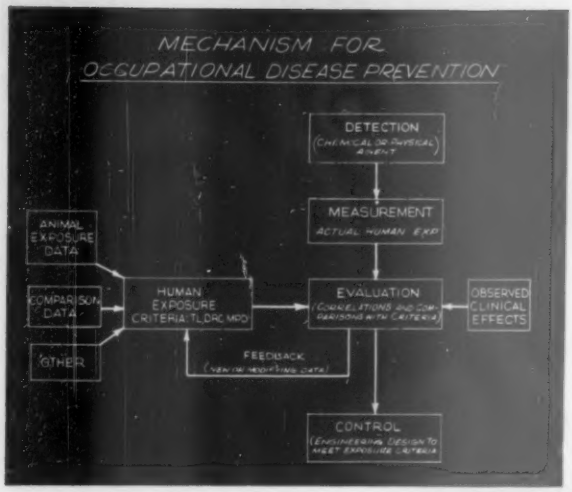



Figure 1. A simplified scheme of a program for the prevention of occupational diseases, showing separate steps of detection, measurement, evaluation, and control.

# Industrial Hygienists

## *who they are*
## *what they do*

Figure 2. An industrial hygienist reviews blueprints for a new laboratory building. Many potential hazards were eliminated before actual construction.

**By GEORGE M. WILKENING**

Industrial Hygienist, Esso Standard Oil Company, New York

HYGIENE in industry doesn't necessarily mean personal hygiene or the maintenance of good sanitary conditions. To be more exact, hygiene is defined as the science of health maintenance or health preservation. Industrial hygiene is an applied science which strives to maintain health by preventing excessive exposures to potentially detrimental physical and chemical agents in the work environment.

What exactly does the industrial hygienist do? How does he go about doing it?

A basic philosophy of the industrial hygienist is that there should be no cause for alarm at the intended use of any material, no matter how toxic or potentially damaging it is. He is concerned only that such hazards be properly controlled. An extension of this philosophy is that the toxic or potentially damaging nature of materials is meaningless if no one is exposed. Therefore, we see that control of exposures is a key objective of the industrial hygienist.

To accomplish his over-all objective of preventing environmental health problems, the industrial hygienist must detect, measure, evaluate, and control potentially harmful agents. Such agents may be of a physical nature, such as noise, vibration, microwaves, infrared radiation, ultraviolet radiation, or ionizing radiation. Or agents may be chemical in the form of toxic air pollutants, gases, dusts, aerosols, or fumes.

All of us are exposed to harmful agents at some time or other in our everyday life. It becomes a matter of degree. How much exposure is damaging or harmful? How much can be considered innocuous? How much exposure should be allowed in the work environment? Detection involves identification of physical and chemical agents and is a natural prerequisite for their measurement.

Measurement of concentrations or intensities to which workers are exposed must be made by suitable

Presented before the 29th Annual Safety Convention of the Greater New York Safety Council, April 16, 1959.

instrumentation. Evaluation consists mainly of correlating exposure levels or conditions with criteria of acceptable human exposure and observed clinical effects. From such evaluations, decisions are made on whether engineering control is necessary to reduce human exposures to satisfactory levels.

Figure 1 shows, through a simplified scheme for prevention of occupational disease, the separate steps of detection, measurement, evaluation, and control.

Detection of an occupational health problem is often subtle and challenging. It demands that you know something about normal or average conditions, before you can detect deviations from the normal or average. Detection demands keen attention to detail, an inquisitive nature, and an anticipation of events.

We'd like to detect health problems while they can be labelled "potential" rather than detecting them *post facto* in the dispensary. Unfortunately, we don't always discover the potentials. Obviously, alertness then becomes a major requirement for industrial hygienists, physicians, safety engineers, purchasing agents, and workers.

Measurement by suitable instrumentation is a basic part of industrial hygiene work, especially when we realize our senses may not be reliable indicators of the presence or absence of hazardous conditions.

For example, toxic concentrations of certain materials may be inhaled without any warning odor, or hazardous or even lethal intensities of ionizing radiations may be inflicted without noticeable response on the part of the individual.

Certain substances may quickly fatigue the sense of smell. Emergency conditions or a sense of duty may keep men at their posts under excessive exposure, even though under ordinary conditions they would have escaped from hazardous conditions. And hearing losses may be produced in personnel even though noise levels are not disagreeable.

The lab plays an important part in measurement. Air samples for dust, vapor, mists, and fumes must be analyzed by chemical analytical techniques, by infrared or ultraviolet spectrophotometry, by polarography, microscopy, mass-spectrometry, gas chromatography, and other methods. Biological specimens such as urine, blood, or feces are also analyzed for the absorption of toxic materials.

Figure 4. Metal inspector makes an X-ray radiograph of a pipe weld. X-ray dose rate patterns were checked and found to be at acceptable levels, providing the inspector remained at certain minimum distances.

Figure 3. A catalyst is drilled from a reactor by means of pneumatically driven, rotary-cutting tools. Use of a properly designed local exhaust ventilating system controlled exposure to irritating dusts.

The majority of determinations are on a micro or semi-micro scale, because serious insidious effects may be produced from chronic exposures to small concentrations or intensities of some materials. Because health conditions are affected over a period, as contrasted to the immediate nature of accidents or safety problems, the industrial hygienist is most often concerned with chronic effects of the environment on the health of the worker.

Since chronic exposures of workers to low concentrations or intensities of hazardous agents may prove detrimental to health, the industrial hygienist is usually most active in the measurement of concentrations in the parts per million, or parts per billion range, or intensities in the microwatt/square centimeter range.

Criteria of acceptable exposure levels play an important role in evaluation of environmental health problems. Such criteria are the so-called Hygienic Guides, or Threshold Limits (formerly called Maxi-

*—To page 118*

A Convair employee who was protected by safety glasses looks through a shattered lens at a display reminding employees of the value of eye protection.

**There's no magic in Convair's formula for reducing eye injuries, just**

# Extra Effort, More Eyes Saved

**By S. W. ROWLAND, JR.**

Safety Engineer, Convair,
Division of General Dynamics Corporation,
San Diego, Calif.

PROBABLY no other single aspect of industrial accident prevention commands a greater year-to-year expenditure of money than does eye protection.

It is generally agreed in industry that the cost of providing an employee with adequate protection is far less than the compensation awarded for permanent disability. Unfortunately, continued expenditures for equipment do not guarantee that an eye protection program will yield maximum results.

Scope of the program and rigidity of enforcement vary from one firm to another. One company requires that visitors and workers wear eye protection while on the premises. Other organizations require eye protection to be worn only in certain hazardous areas. Almost all firms require persons with visual defects or monocular vision to wear protective equipment continuously.

Most companies now tend toward total eye protection, reaching the entire organization with results that depend on the size and nature of the operation and on products involved.

In 1950 the aeronautical industry expanded during the Korean conflict. Convair, making aircraft and missiles, reactivated its Plant II, which had produced B-24 Liberators in World War II.

An increase in over-all employment and general buildup of this plant was well under way by mid-1951. Employees were upgraded or promoted to supervisory positions and management responsibility. Most new workers in the manufacturing setup required indoctrination. Both groups needed more training.

The company had a well-established, successful eye protection program. The safety engineering section and medical section of the Industrial Relations Department had maintained accurate statistical data for a long time. Periodic analyses were made to determine its effectiveness.

Need for better coverage during growth of the company brought new attempts to stimulate participation in the program at all levels and to make more effective use of statistical data.

Division management stressed the responsibility of supervision in eye protection efforts, as well as in other phases of accident prevention. Periodic articles appeared in the division's newspaper, *Convairiety*, informing workers on the program. Safety bulletins were prepared and published. National Safety Council posters went on display.

Safety committee activity at su-

pervisory and non-supervisory levels stimulated the prescription safety glass program. Interdepartmental competition began, and violations of eye protection rules became chargeable items on the safety and housekeeping contest reports.

A weekly division safety report indicated the number of first-aid eye cases involving workers. This report, published and circulated in chart form, reflected the standings of the 13 division superintendents.

In the prescription safety glass program, company and employee share the cost of the glasses. The eye examination is not conducted by the company physician but is handled with the resulting prescription by the worker's own optometrist or ophthalmologist.

Noncorrective safety glasses, as well as the 19 other types of eye protection gear available, are furnished at no cost to the employee. This equipment is checked out to the employee on a tool check slip the same as other tools. The worker keeps the glasses until he wants to exchange them or ends his job with the firm.

Full-time qualified men fit the protective eye wear to the worker. These specialists also clean, repair, adjust, and sanitize the gear, when requested or when the equipment is returned and made ready for reissue.

Incidentally, Convair doesn't require its employees or visitors to wear eye protection at all times on the premises, but the firm does tell its people to wear eye protection during hazardous operations and in restricted areas.

How well the program is doing can be measured by the reduction in the number of persons reporting to plant medical facilities with eye injuries regardless of degree or intensity. Along these lines, M. C. Val Dez, chief safety engineer for Convair's San Diego Division, guided a study to evaluate increased activity aimed at reducing the frequency rate of first-aid eye cases in the division.

In January 1952 eye-case frequency charts were established for the firm's Plant II. Area charts were plotted weekly to get immediate trend data to assist the supervisor in checking trends in his assigned areas. The master chart established

*—To page 67*

Display board of frames available with corrective safety glasses.

Safety crib attendant C. D. Blakeslee adjusts safety glasses equipped with sideshields.

Safety glasses are left at the safety crib for cleaning and repairs.

This car hit a tree and broke across the middle. The driver, who was wearing a seat belt, suffered only facial cuts.

# They're Learning to Use Seat Belts

**Just a few years ago NSC members reported massive apathy where seat belts were concerned. Now fleet drivers ask for them.**

**By MURRAY D. SEGAL**

Traffic Engineer,
National Safety Council.

NOT MANY YEARS ago fleet operators and drivers looked on safety belts with a doubtful eye. Few of them believed the belts were valuable; in fact, many of them thought a belt would trap a driver involved in an accident.

But this attitude is changing, according to evidence presented in a recent poll conducted by the National Safety Council among members operating motor vehicle fleets.

Facts disclosed in this survey contrast dramatically with facts disclosed in a similar study of fleet members in 1957.

Of 198 fleets answering questionnaires in the recent survey, 103 —or 52 per cent—state that some or all of their vehicles are equipped with belts. Of the total sample of 66,488 motor vehicles, 11,155— or 16.8 per cent—are equipped with belts. A breakdown shows that 36.4 per cent of passenger cars and 3.2 per cent of trucks have them.

Use of belts in passenger car fleets has come a long way since 1957, when only 33 of 173 fleets replying to the questionnaire said they used belts—mostly on passenger cars. Only six fleets reported use of belts on trucks.

Truck fleet use is still lagging far behind passenger car fleet use. Small fleets are showing more interest than large fleets. Average size of truck fleets totally or partially equipped with belts is 98 trucks— not equipped, 268.

In 1957, companies that had installed belts complained frequently that drivers would not use them. Here's the picture today—38.8 per cent of the replies from fleets equipped with safety belts show that the majority of their drivers *always* use the belts, 43.7 per cent that the majority use them sometimes, and only 12.6 per cent that the majority seldom use them.

Not only are more drivers using the safety belts when provided, but they often beat the drums for belt installation. In 22.3 per cent of the fleets whose drivers are consistently using the belts, the drivers themselves suggested the installation.

However, in most companies management must do a selling job to get acceptance and consistent use. This is true even when use of belts is mandatory, as it is in 15.3 per cent of the fleets reporting use.

Of the fleets receiving driver cooperation, 36.5 per cent credit their success to general educational programs. Such programs make use of posters, bulletins, home mailings, safety talks highlighted by photos and demonstrations, movies, employee publications, and all the usual means of employer-employee communication.

One company conducts personal discussions with each driver several times a year.

Another fleet uses a little nongentle persuasion. It is a company regulation that if a unit is equipped with belts, any driver involved in an accident who is not using his belt at the time of the accident must explain his negligence in determining the driver's responsibility for the accident.

An important device for gaining acceptance is the practice of issuing regular reports on known accidents in which belts could have saved lives—or did save them. These have most impact when accidents involve the home fleet.

**MANY people who have belts installed in their cars are not using them for low-speed urban travel. The reason for this is the misconception about the relationship between speed and injury in accidents. A brief statistic will show what this means. In 47 per cent of fatal accidents, the travel speed (not impact speed, which is often lower) is under 40 mph. The figure for all accidents is 84 per cent. Moral: wear that belt all the time, even on a trip down to the corner for a newspaper.**

Police departments have had success with this technique.

The Texas Department of Public Safety includes in its fleet safety materials for drivers brief descriptions of accidents, stating whether the driver was or was not wearing his safety belt.

"We have had no serious injury or fatality where drivers were using safety belts when involved in major accidents," the department states. "We had one accident in which our car spun out of control on a curve in pursuit and turned over. 'The driver, who was not wearing his safety belt, was thrown out of the car and spent several days in the hospital with a brain concussion and other injuries.' His partner, seated in the right front seat, had his safety belt fastened and sustained no injuries except a small cut and bruise over the right eye."

The police department of Grand Rapids, Mich., reports: "The greatest single factor in achieving acceptance has been supervision. In addition, we had one particularly bad personal injury accident involving one of our patrolmen who was not using his belt. The absence of the belt and its consequent result had a salutary influence on the rest of our people."

While most fleets have not had enough experience to roll up a significant number of statistics, the survey discloses many instances in which belts are credited with saving lives.

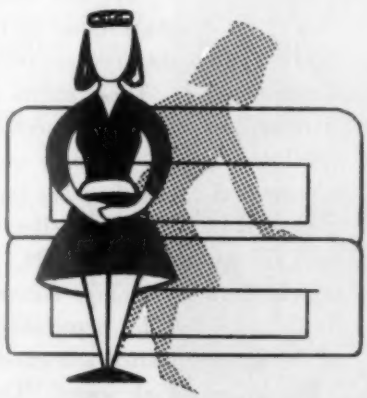
The safety director of Consumers Cooperative Association, Kansas City, Mo., reports: "We have had seven cases where the use of seat belts has saved employees from serious injury, and in four of these cases the accident might have resulted in fatality." Consumers operates a fleet of 102 passenger cars, all equipped with belts.

General Petroleum Drilling Company, Ltd., Calgary, Alberta, has had similar experience. "Previous to use of belts we had two drivers fatally injured in company transports where it was almost sure that had belts been in the transport lives could have been saved. Since belts have been used, we have had two cases in which it has been proved that belts did save our employees' lives." This company has a fleet of 26 cars and 75 trucks. All are equipped with belts, which employees are required to wear.

And here's a testimonial from a public service company in the Southwest which operates 155 passenger cars and 356 trucks, all equipped with belts. "We have had two cases where we are quite sure there would have been a serious injury or possible death but for safety belts."

In addition to the actual saving of life in a crash, belts are credit with other advantages.

Users frequently say that belts reduce backache and fatigue on long trips and give the driver a sense of security. One company, whose passenger car and truck fleets are completely equipped with belts, says its drivers have reported incidents in which they have been able to avoid accidents because their belts held them in position, enabling them to control their vehicles.



A belt holds the body in place in a turn or even in a severe sideswipe collision.

But let's look at the other side of the coin—the fleets not sold on safety belts.

As previously stated, many of these are trucking fleets. Among these, the following comments are frequent: "drivers show no desire for them," "we've asked drivers, they don't want them," and "drivers won't use."

Typical is the following, from an operator of 151 passenger cars and 478 trucks: "About three years ago we attempted to sell the use of belts and placed them in a few of our 'pool' cars. Our efforts were to no avail. The belts were seldom used, principally because of their inconvenience."

Some drivers and fleet operators feel that belts are unsuited to the trucking operation—that a heavy truck's weight offers enough protection.

Acceptance is slow in fleets whose operation primarily involves low speed urban stop-and-go type driving. Such fleets account for the largest percentage (35.9 per cent) of those not using safety belts. They believe belts are impractical for them—the constant buckling and unbuckling becomes an irritant and slows down service.

Apathy is admitted by 16.8 per cent of the fleets not using belts, while 14.7 per cent are still not convinced of their value. Because of a low accident rate in the past, 8.4 per cent do not see the need for belts; 6.3 per cent do not use belts because they are not able to enforce their use. Only 2.1 per cent consider the cost an overriding disadvantage.

Many fleets are now completely equipped with safety belts. Others are routinely equipping new vehicles as they are placed in service and are providing belts on old vehicles when requested by the drivers. Management is stepping up its efforts to stimulate driver acceptance. Drivers, too, are showing an encouraging swing to safety belt use.

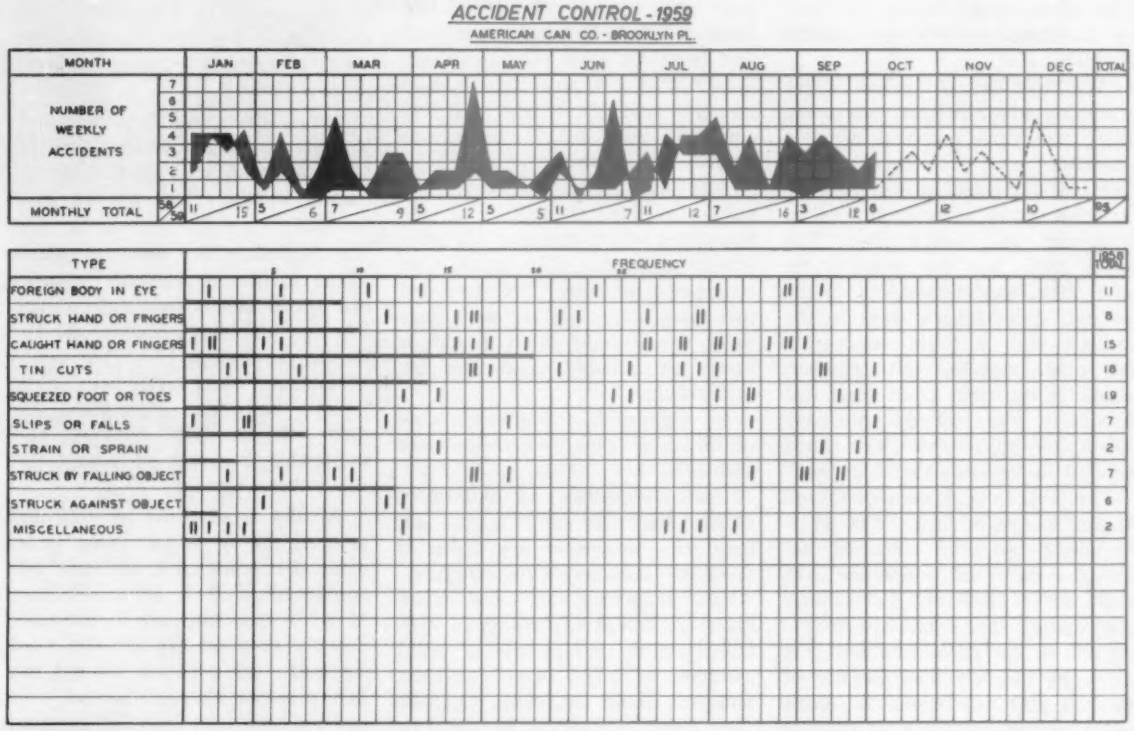
If this trend continues, it is reasonable to expect that in the not-too-distant future safety belts will become a standard item of motor vehicle protective equipment comparable to the industrial worker's hard hat and safety shoes.

# IDEAS THAT WORKED

**Devices and Ideas to Help Your Safety Program**

By Arthur S. Kelly, Industrial Department, NSC

## Accident control chart




HERE'S an idea "stolen," the contributor told us, from the Quality Control Department's "P" (per cent defective) graph.

The top section of the chart gives the graphic story of the week-to-week and month-to-month work injury experience. It also gives comparison figures by month with the previous year. The valleys are filled in with color: red to indicate periods where there have been more such injuries than the previous year, and green in the valleys for the periods in which they had fewer work injuries than the previous year.

The bottom section records the incidence of work injuries by type, week by week. The heavy horizontal lines under the tally marks indicate the total of such injuries to date for each type injury. The column on the extreme right of the chart shows the total for each type of injury during the previous year.

These charts are posted in each department on the departmental center bulletin board, and show the foremen and employees of that department exactly what the work injury experience is. This chart was effective almost immediately according to Mr. E. H. Fink, Supervisor of Safety and Training, American Can Company, Brooklyn.

In September 1958 a safety shoe drive was started and carried on for several months. As Mr. Fink wrote, "The enclosed chart speaks for itself as to how these extra safety shoes helped out."

## Slot machine

HARVEY MARSDEN, Kellogg Company, Battle Creek, Mich., saw a National Safety Council poster featuring a slot machine and bearing the admonition "Don't Gamble with Safety." As Mr. Marsden said, "This started the old bean working."

After some difficulty he found an old slot machine which had been retired from service, legally, and converted it. A slug was welded in place to prevent continuous operation. The coin slot was removed and the opening blanked off.

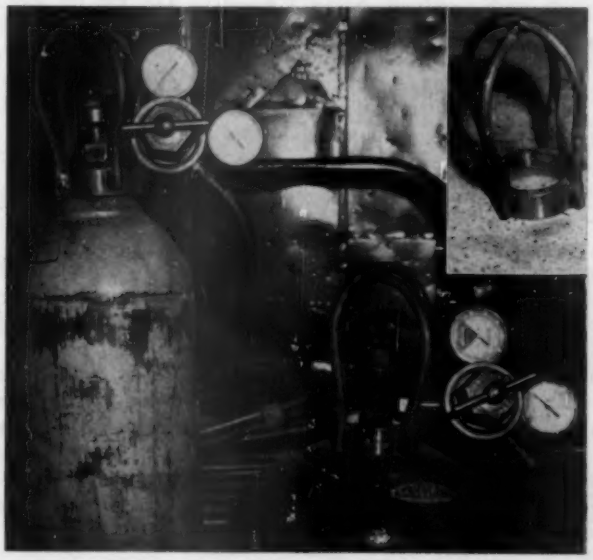
Next the "fruit salad" was removed from the wheels and in their place were put safety slogans, pictures of personal protective equipment, and safety decals. These replacements were arranged so that in no case could three of a kind show up at the same time.

In the space used for ball gum, Marsden put a pair of damaged safety glasses. The Jack Pot hole was covered with the sign, "Don't Gamble with Safety." Since he had used the film, "Knowing Is Not Enough," and the recall material available for use with this film, Marsden put one of the posters on the top of the machine.

The converted one-armed bandit was set up in the plant lobby. The curiosity of employees passing through made this idea an instant success. Each spin of the wheels displayed three separate messages.

## Gas cylinder valve protection

VALVES on oxyacetylene cylinders are subject to damage from numerous causes. A crisscross arrangement of ¼-in. rod welded to a threaded collar gives excellent protection as can be seen in the photos. This idea was developed at the Cornwall Mining Division of Bethlehem Steel Company.



**LAST MONTH'S WINNER**

**A sturdy picnic basket has been awarded to E. P. Carter, research shop group leader at Chemstrand Corp., Decatur, Ala., for his idea "Harness for compressed gas cylinder" shown on these pages last month. Two straps fastened to a platform and frame prevent the cylinder from tipping.**

# We Need Each Other!

**In the field of industrial health and safety, free labor and management can demonstrate that they share a humane concern for the well-being of the individual**

**By PAUL L. PHILLIPS**

President, United Papermakers and Paperworkers, Albany, N. Y.

OUR UNION is proud of its affiliation with the National Safety Council, and we are particularly proud that the Labor Conference has selected as its next chairman one of the outstanding officers of our union, Vice-President Al Brown, our West Coast regional director.

Few union officers have been as devoted and energetic in industrial safety as has Al Brown. His efforts were a significant factor in the safety progress achieved through joint efforts of labor and management in the Pacific Coast pulp and paper industry. It is an excellent record of achievement, and yet Al is quick to say, "Our job is far from over, for as long as a single worker is injured in the mill, we can't afford to pat ourselves on the back."

It is this attitude which I hope permeates the safety activities of our union and the entire trade union movement.

This is the theme all of us should constantly keep in mind—the individual's stake in the safety program. I find it impossible to separate the union's stake in safety from the stake of the individual member.

In the final analysis the individual worker has the most to gain or lose in reducing industrial accidents, for it is the individual who risks his life, his sight, his hearing, and his health.

But it is the union which must get through the complacent "It can't happen to me" attitude of the individual worker and create a desire by the group for a positive program.

Moreover, once a joint safety program is under way, the union must see to it that the goal is kept in proper focus, so the safety program is not allowed to slow down or stop.

The union is a human institution concerned with human welfare. And because it has the power to bring workers to a status of equality with their employers, it is the union's job to preserve proper priorities in safety programs.

Top priority, of course, must go to human needs. The union cannot allow the safety program to be neutralized by management making productive efficiency a matter of prime consideration. By the same token, the union cannot allow its own internal petty politics to sabotage the effectiveness of a safety program.

Let me be specific on this last point, because it deserves attention from trade unionists. It is easy for us to spank management (they've got it coming at times), but it is equally important that we walk some of our own bad boys out to the woodshed for an occasional paddling.

### Irresponsible Acts

Let's take the case (this is a situation that happens over and over again) where a union negotiates with management and gets the company to agree to spend money on safety equipment. Because the union was persuasive or perhaps because an accident occurred, management gets the equipment and makes it mandatory that employees use it. If you fail to use the safety device or wear the safety equipment, you are subject to discipline.

It always happens that we have a few assorted characters in the ranks who choose to ignore these protective devices or refuse to wear the safety gear. There will be discipline, and then there will be loud protests from the disciplined workers.

I am presuming in this that both the company and the union have followed a reasonably mature course of explaining the innovations to the employees concerned. But after the educational process has been completed, some workers will still deliberately violate safety rules.

When these persons are disciplined, it often happens that some union official will storm to the defense of the offenders, demanding grievance processing, arbitration in some cases—and I've even heard of wildcat strikes on these grounds.

We've got to put a stop to that kind of irresponsibility—and I'm talking about *we* in the labor movement. We've got enough good

---

Presented before the Labor Conference at the 47th National Safety Congress, Oct. 21, 1959, in Chicago.

causes to fight for, rather than wasting our energy and ammunition fighting for the privilege of permitting members to kill and mutilate themselves and their fellow workers.

Let's get every conceivable safety device we can into our mills and plants. Let's educate employees in their use. And then let's help enforce reasonable regulations to put those safety devices to work.

I was gratified to read in the code of "Recommendations for Safety," adopted recently at the first AFL-CIO Conference on Safety and Occupational Health, that this mutual responsibility of management and labor for enforcing safety regulations was listed.

I consider the entire series of recommendations to be an excellent base on which to build union safety policies, local and international. We printed them in our *International* newspaper that goes to the homes of all of our members, and I hope it stimulates greater demand for more safety programs and for better programs.

There are other areas of union responsibility in the field of safety where I should like to see more activity. Human problems arising from automation are not just economic—they are problems of health and safety, too.

Perhaps, I'm directing these comments to the wrong group, when I suggest that unions and managements undertake joint studies to assess new hazards to the human mind and body, accompanying what might be termed *the hidden revolution* in our industrial technology.

### Mental Health

Unions and management, in conjunction with government agencies on the federal and state level, should launch research into the field of industrial automation and its effect on the mental health of the individual worker. We should learn and understand the consequences on the human mind of the wave of technological changes sweeping virtually every industry in America. What does it mean when a man moves from a work room crowded with people to an instrument room in which he is quietly alone with an assortment of gauges, dials, and levers controlling millions of dollars worth of machinery and product?

What happens to the individual worker who finds the skills of a lifetime of labor eliminated overnight by some new electronic gadget? When a man is recognized with the dignity of an individual, it produces almost a paradoxical situation.

On the one hand, it is a powerful stimulant to his physical energy and his mental creativeness. On the other hand, it acts as a sort of tranquilizer to give him contentment and happiness in his current job. Suddenly withdraw the stimulant and the tranquilizer, and the shock can easily result in mental illness.

Project this to others, project it to thousands on thousands of workers whose feeling of personal importance and sense of personal dignity are shattered by the introduction of new automatic devices. This is a matter for our concern.

It is a hazard to health, and demands our attention before it snowballs to proportions we cannot cope with. This business of individual dignity is, after all, what the whole labor movement is all about.

I am intrigued with the path being blazed by the meat-packing unions with Armour & Co., by which they have set aside a special fund to deal with retraining workers. I look on that as a safety measure.

Another new industrial hazard is the growing use of radioactive materials. In our industry there is hardly a single new operation in the past five years which has not included the use of devices containing some of the most lethal radioactive substances known to man. Yet in few of these instances have we heard of management engaging in prior discussions with the union about the installation of these machines, or their hazards, or the protective gear needed to operate them.

As a consequence there is a feel-

—*To page 114*

## The Big Snow

THE COLD WAR is a heat wave in comparison with the snow jobs we are fed, or feed ourselves constantly.

We are cluttered up with people going through life pulling "push" type doors, touching "wet" paint, noising up "quiet" zones, throwing items marked "fragile," speeding where it's "slow," squeezing "fresh" tid-bits, ignoring "danger" zones, bucking lines, and taking four pills when two are prescribed.

When egotism or ignorance don't cause enough trouble, bigger and better snow jobs are thought up to help confuse folks. Loaded dice, marked cards, doped horses, and fixed fights are all old hat. Now we sucker ten million people at a crack by having a so-called expert sweat and fidget in an isolation booth while determining the number of stays in the corset of the third lady-in-waiting to the second red-headed favorite of Henry VIII.

We have an aversion to preachers, reformers, moralists, and anyone pushing the facts for a conservative approach. After all, a conservative is one who doesn't think anything should be done for the first time—and we've been carrying on the same old jazz for nigh on to 20 years and there ain't nothing happened yet. Things only happen to old "stupe" over there.

Facts are stubborn. Fiction is much more pliable and, with it, unpleasant data can always be pointed to the other guy to get it off our backs. For example, about two million *other* jokers will probably get injured this year on the job. Doesn't seem possible that that many *other* people can be so unfortunate, does it?

Before you get snowed right out of this world, make sure your brain is in gear and your ego is slipping its clutch. Hospitals are full of potential quiz experts who know all the answers beforehand.

ROBERT D. GIDEL

# Battling the Bugs

**Anything that kills insects and rodents may harm humans. Control measures must consider protection for exterminator and consumer**

**By D. A. BLACKWELL**

Supervisor of Safety and Sanitation, Union Starch & Refining Company, Granite City, Ill

THERE IS A growing need for the use of pesticides.

In large measure the food and beverage industry is responsible for the health and nutrition of the nation. Practically all the food and drink consumed in the United States today has been processed by some segment of industry. The trend toward pre-prepared foods will continue. Home-grown and kitchen-processed will become an even lesser portion of the total food consumed in the '60's

The marketing picture today is such that thousands of producers of raw materials are pouring their products into some industry for processing and distribution to millions of consumers.

We in the industry gather for processing and storage enormous quantities of food raw materials and products, most of which attract insects and rodents. We must do something about this sizable pest control problem.

We have a legal and moral obligation to produce clean and wholesome products free from contamination and deflation by pests. Insects and rodents, in addition to spreading filth in our plant and to our products, can cause property damage and losses of raw material and product. These are dollar losses.

Prevention of these economic losses, and control of the quality of our products, is the primary function of our plant sanitation programs. Good sanitation is accomplished through control of the storage and manufacturing environment, by proper design of buildings and equipment, and systems of regular cleaning and good housekeeping, supplemented by the use of pesticide chemicals.

Spraying food storage area with compressed air overhead units.

As safety people we must recognize that it is necessary to use pesticides. It would be wonderful if materials existed which were completely harmless to man but lethal to the forms of life we wish to control, but this is not the case. This means we must use toxic substances in and around our plants.

After we accept the fact that these toxic substances must be used, our problem is to accept the hazard that this implies, and see to it that our employees and our products are not adversely affected by such use.

Our first step should be to remove all unnecessary risk from such use by asking these questions:

Are we using the least toxic material possible?

Are we using this material at the lowest concentration possible?

Are we using this material as infrequently as possible?

Is use consistent with obtaining desired results?

After we are satisfied with the answers to these questions, we have minimized the hazard and exposure for employees and the product and, incidentally, usually have arrived at the most economical solution to the problem.

As to the individual who applies the pesticides, he must be trained with regard for himself and others in the plant. I don't believe just anyone should use these materials. If the man is not experienced and well-trained, someone who has knowledge of the material should supervise him closely.

**Protective equipment** should be provided. Rubber gloves and a respirator with organic vapor canister are required for most insecticide applications. Commonly used insecticides are toxic, if inhaled or ingested, and they also can be absorbed through unbroken skin.

When fumigants are being used, a full face gas mask with proper canister should always be provided. (Care must be taken to protect the

shoes from fumigants.) Generally a "tank gauger's" mask is preferred for this work.

This type of mask has the canister worn on the back. There is a definite reason for this. If the man fumigating is crawling over the surface of grain or handling or pouring fumigants, the canister opening in the ordinary mask would pick up the highest concentration of fumigant. This added load cuts down on the life of the canister and shortens the time available for the man to do his job safely.

Make sure you have the right kind of canister for the material used. Don't rely on an all-purpose type, as it affords only minimum protection against many kinds of gases but not the long-time protection needed against a particular gas. Fumigators should work in pairs and each stand guard for the other.

I have observed operators from some pest control firms fumigating box cars. They enter the cars without respiratory protection and pour fumigants from sprinkling cans. And this material is 85 per cent carbon tetrachloride! Some operators seem to take pride and delight in the fact that "the gas almost got me that time." This sort of bravado must be avoided, if you want to keep people from dying immediately, or eventually from disintegrated livers.

I have observed grown men playing "water pistol" with an insecticide sprayer, actually wetting a fellow employee. Horseplay has no place in business, especially in the handling of poisonous materials. Heroes and those with frisky tendencies should be kept away from pest control chemicals.

**Medical supervision.** Alcohol and fumigants don't mix well. The person who drinks excessively already has an overworked liver and is apt to become fatally ill when exposed to pesticides. An individual handling pest control chemicals should be a sober, fairly intelligent, stable person, willing to follow instructions if accidents are to be prevented. He should have an annual physical checkup, informing the physician about the type of chemicals he has been working with so necessary checks can be made.

If you have chosen materials with a minimum of hazard and have an operator well trained and equipped to do his job with safety to himself, the remaining problem is to protect other employees and the product.

Residual insecticides can be applied almost anytime with little hazard to other employees. Rodent baiting and the use of herbicides constitutes little hazard to fellow employees. It is fairly easy to avoid hitting other employees with these chemicals and to avoid contaminating of air they breathe or food they eat.

**Fumigation.** Warning signs or watchmen should be used to prevent employees entering areas where gas would be present. Some firms fumigate on the run, shutting down parts of the process while other parts are in operation. But to do an effective fumigation, you must seal gas into the equipment and retain it long enough to do its job. It is especially important to do an effective sealing job and have tight equipment when people are working in adjacent areas.

Aeration provisions must be made, so at the end of the fumigation period the gas is dissipated to the outside atmosphere and not returned to the building. Tagging and sealing of equipment might be made a part of your tag-out lockout procedure and would operate similarly. The last step after aeration would be the removal of tags and seals.

In building fumigation the greatest hazard to fumigators, if the building has been tightly sealed, is in aeration. Open doors and windows on the first floor level from the outside. Remember to keep warnings up and visible.

Go away a short distance from the building and wait for 30 minutes or an hour before donning a mask. Quickly open several windows on the top floor to create a chimney effect. Get out again, and let the building air for another 30 minutes to an hour. Then it is usually safe to go in with masks and take the time to open windows on all floors.

You may be able to shade these times if you use a gas detection device, such as a halide detector or one of the sniffer devices. These testing units are handy in checking how well you have sealed the building and correcting defects in the sealing at the beginning of fumigation. They can be used for sniffing out gases leaking from around windows and doors. It is an important part of any fumigation that a check be made to be sure fumigants have been dissipated before employees are allowed to re-enter buildings or open equipment.

**Protection of the product.** First, the product must be protected from contamination by the destroyed

*—To page 76*

**BERT**

Sound levels were measured at 135 locations in this plant during a four-day survey by insurance company's noise specialist and safety engineer. Measuring instruments are mounted on cart.

# Got a NOISE Problem?

**The remedy may be relatively simple and inexpensive, or it may be costly and complicated. But it can't be ignored.**

**By FRED W. BRAUN**

Vice-President, Employers Mutuals, Wausau, Wis.

OF ALL the occupational hazards confronting industry today, one in particular—excessive plant noise—is too often underrated.

Jet engines, which cause hearing loss to those who work too near them for long periods, demonstrate the potential menace dramatically. But thousands of case histories in other industries also demonstrate it, though less spectacularly. For noise is more than a nuisance—it's a danger, exacting high costs in health, morale, plant safety, product quality, production, and profits.

Increasingly, these problems are becoming too meaningful to ignore. Of every 100 newly-hired workers in heavy industry, 20 already have some hearing loss, according to one recent survey. Approximately 8 to 10 million Americans, another estimates, probably need hearing aids.

Not nearly all of these, of course, are due to industrial exposure. But many are. And already, laws are in effect in some states governing compensation for work-connected hearing impairment. This has increased management's liability—especially in cases where employers have no record of workers' original hearing ability and have taken no effective steps to control excessive noise.

How can we deal with such problems?

Like the broader problem of accident control itself, eliminating noise hazards actually may not be difficult or extremely costly if approached systematically. Sometimes, in fact, the engineering involved may be essentially such minor but ingenious changes as substituting fiber trays for metal ones into which machined screws have been clattering. Or it may be lessening the noise of an automatic screw machine through the use of acoustical material in the stock tube.

Every case is different. Control methods are sometimes surprisingly simple. But they may involve long-range planning and research. Regardless of the simplicity or complexity of the problem, employers will be wise to take prompt steps toward a practical solution.

Where should noise control begin?

Again, as in the blue-ribbon, money-saving accident-control efforts, the first requisite probably is that management lead in getting the job started practically, systematically, and with 100 per cent coverage.

Halfway measures won't work. Only when the front office takes command and authorizes the tools to do what's needed, will others carry out their interrelated parts. One man of ability should be coordinator, reporting directly to management, with authority to obtain the necessary technical help.

**First, a survey.** Then, you're ready to unfold a program which usually follows the same series of steps, either simultaneously or successively. First step might be an accurate noise-level survey of the plant.

This is a job for specialists, because noise varies so greatly in pitch or intensity that only the experienced can determine what is potentially hazardous and what is not. Consult your compensation insurance carrier or a competent private consultant. With proper equip-

ment and evaluation, it's possible to get straight to the real causes of excessive noise by taking measurements at important machines and at critical locations throughout the plant.

**Important details.** Often, though major changes may be necessary eventually, attention to a few details may eliminate a large share of objectionable noise almost immediately. In one department of a plant, for example, a rotary valve was found to be rubbing the valve housing, producing a loud screech. Grinding it down to precision fit removed the screech.

In another firm, a high-speed circular saw was producing a loud high-frequency noise while idling. Returning the blade to the manufacturer to have several slots cut in it changed the pitch to a less annoying frequency.

**Maintenance.** Sometimes, just careful maintenance can effect a remarkable reduction of noise: tightening loose bolts and screws that hold down housings, covers and guards; attention to worn gears and bushings, bent shafts, and similar trouble-makers.

In one case, it was found that a high noise level was caused by a worn bevel gear drive, easily remedied by replacing the gears.

A change of individual operating procedures may work wonders. In a metal-stamping plant, air flowing through the orifices of ejectors was causing needless noise much of the day merely because press operators failed to turn off the ejectors promptly when not actually operating the machines. Noise from drills and punch presses has been reduced substantially simply by adjusting the operations so holes are punched in rapid sequence rather than simultaneously.

A change of methods or materials also may offer important side benefits. Riveting, for example, can be replaced by spot, arc, or flame welding; pneumatic riveting by rivet pressing. In many foundries, casting cleaning by tumbling barrel operations has given way to use of quieter automatic abrasive blasting machines. Because noise is faithfully

*—To page 104*

## TWO CASE HISTORIES

**Enclosure.** Tumbling barrels, used in many operations, frequently present a noise problem. Complete individual enclosures have provided a satisfactory solution for one plant where slotted tumblers are used to separate scrap from parts. The parts are cup-like objects stamped from 18 or 20-gauge cold rolled sheet steel. The material is loaded or shoveled into the tumblers by hand. As the tumblers rotate, the thin washer-like pieces of scrap fall through the slots in the tumbler wall into a pan on the floor. When the operation is completed, the scrap pan is removed and replaced with an empty tray.

Enclosures were made, consisting of ¼-in. tempered masonite over 1-in. thick fibrous sheathing on the outside of 2 by 4-in. studs, and another 1-in. thick sheathing nailed to the inside of the studs. The studs are located about 18 in. on center and the 4-in. space between the two surfaces of sheathing was filled with rock wool batts. Doors are of the same construction.

Photo shows enclosures opened. Over-all noise level was reduced from 111 to 88 db. at a point about 5 ft. in front of the tumbler. This was predominantly high-frequency noise, and reductions of 22 to 24 db. were obtained in each of the four octave bands between 600 and 10,000 cycles per second.

**Isolation.** Boiler making has long had the reputation of being one of the noisier industrial operations. The belling and beading of tubes are two of the noisiest operations involved in boiler fabrication. Both are performed with pneumatic hammers. When done in a large open work area, it produces noise of high intensity for considerable distances during intermittent but frequent intervals.

To confine this high-level noise to the immediate area, a large acoustical area was constructed. It consists of an outer wood surface and batts of sound-absorbing material covering the inside wall and ceiling surfaces. Large, hinged double doors at one end provide access for rail flat cars.

Noise level readings made before and after enclosure at a point 37 ft. from the operation showed noise reductions in the 1200 to 2400, 2400 to 4800, 4800 to 10,000 cycles per second frequency bands of 14, 17, and 16 dbs. respectively. This enclosure is no doubt giving larger noise reductions than those indicated by these values, since final readings with the enclosure were approximately the same as the background noise level.

Photo above shows enclosure where boiler fabrication is going on.

# WIRE FROM WASHINGTON

By HARRY N. ROSENFIELD
Washington Counsel, National Safety Council

**This report is an information service. Publication does not imply National Safety Council approval of or opposition to any legislation mentioned**

VARIOUS federal agencies, including the courts, have continued to deal with a wide range of safety problems.

**Industrial Safety.** The Bureau of Labor Statistics, U. S. Department of Labor, released estimates that a total of 1,810,000 workers were disabled by on-the-job injuries during 1958, compared with 1,890,000 in 1957 and 1,950,000 in 1956.

Of the 1958 injuries, 13,300 resulted in death and 75,700 in some degree of permanent physical impairment. Manufacturing and trade each accounted for 340,000 work injuries, and 300,000 were attributed to agriculture.

The Bureau reported that the all-manufacturing injury-frequency rate was at an all-time low in 1958, with 10.9 disabling injuries per million man-hours worked, compared with 11.4 in 1957. This was 4 per cent reduction.

The frequency rate for contract construction rose slightly, from 30.7 in 1957 to 30.9 in 1958. In wholesale and retail trade the 1958 average was 12.0 disabling injuries per million man-hours, compared with 11.9 in 1957.

The rate for local and interurban railways and bus lines rose from 11.9 in 1957 to 13.2 in 1958, but dropped in the same period for trucking and warehousing from 30.5 to 28.9. Perhaps, the most spectacular rate reduction occurred in the sand and gravel industry—from 30.1 in 1957 to 18.6 in 1958.

In government the all-establishment federal rate dropped from 8.3 in 1957 to 8.1 in 1958; for state and local employees, the rate rose for police from 28.8 to 33.1 during the same period, for local fire protection from 26.4 to 31.8, and for sanitation departments from 53.6 to 56.1.

The lowest recorded rate was 0.7 in the telephone communications industry. Among the lowest rates for manufacturing industries were: 2.3 for the radio tubes industry; 2.4, explosives; 2.5, synthetic rubber.

The highest injury-frequency rate reported in the 1958 survey was 63.8 for logging, an increase from 62.3 in 1957. The Bureau of Labor Statistics also issued a special report on sawmills and planing mills. Lumber mills showed a 30 per cent reduction in work-injury frequency—from 64.1 in 1946 to 45.0 in 1957. For planing mills, the rate dropped 14 per cent—from 35.1 in 1946 to 30.2 in 1957.

Nevertheless, the Bureau states this record did not match the general reduction in injury incidence achieved throughout manufacturing during the same period: a 43 per cent drop from 19.9 in 1946 to 11.4 in 1957.

The lumber industry's injury rates "are consistently among the highest in the series of manufacturing industry rates compiled by the Bureau of Labor Statistics." Total costs (including deferred future charges) due to work injuries in the sawmill and planing mill industry in 1955 ranged somewhere between $63 million and $95 million, depending on the method of calculation.

The U. S. Bureau of Mines reported that in the mineral-extractive industry, the frequency of injuries declined less than 1 per cent during 1958 compared with 1957. Fatalities were less frequent in coal mining, coke and nonmetal mills; fatality frequency rates rose for metal mines and nonmetal mines. No change in fatality rates occurred for petroleum and natural gas, metallurgical plants, and stone quarrying.

According to the U. S. Bureau of Mines, fatal injuries in coal mines numbered 175 in the first six months of 1959, compared with 177 for the same period in 1958. The 1959 rate was 1.02. For the first half of 1959, however, nonfatal injuries dropped to 7700, contrasted with 8,265 for January-July 1958. The six-month injury rate in 1959 was 44.75 per million man-hours, a reduction from 46.77 in 1958.

The Supreme Court of the United States ruled the Safety Appliance Act's power-braking requirements applied to a railroad's break-up and assembly movements of cars between its classification yard and shippers' factories. The Court's rationale was the hazard involved in the two-mile route through the city over 11 grade crossings.

The International Labor Organization convened experts from nine countries on industrial accident statistics to attempt agreement on a proposed international definition of industrial injuries for statistical purposes and on a revised classification of causes of accidents.

The Atomic Energy Commission established a new office: assistant general manager for regulation and safety. AEC also created an Aerospace Nuclear Safety Board, composed of AEC staff, to consider

safety problems associated with use of nuclear energy in space.

The Board's jurisdiction includes the possible effects of nuclear space devices on the health of the people of the world; and the present and future radiation from space nuclear power sources on earth and in those outer space regions of special interest, within the prerogatives of the United States.

The Board will recommend standards of safe practice for the employment of nuclear-powered space devices proposed by the U. S., as well as policies and procedures to be followed in requesting the use of nuclear energy for devices in space vehicles and satellites proposed for use by the United States.

The AEC directed five uranium-processing mines to take corrective action to eliminate violation of radiation safety regulations.

International agreement was reached on permissible radiation exposure by the general public; in effect, present exposure limits are continued. The agreement settles differences between the National Committee on Radiation Protection and Measurement (a non-governmental committee in the U. S.) and the 15-nation International Committee on Radiation Protection.

**Accidents to Children and Youth.** For children under 15 years, accidents in and around the home represented the chief cause of injuries. For young people 15-24 years of age, home and work accidents each represent about 20 per cent of all their injuries, with motor vehicles contributing another 17 per cent. Male children and young persons sustained injuries from accidents more frequently than females. No substantial difference was noted between urban and rural areas.

**Commercial Transport Safety.** The ICC issued its final amended regulation requiring the report of every accident involving motor carriers, which resulted in injury, death or property damage to an extent of $250 or more.

ICC also issued amended regulations concerning standards for glass in buses, trucks or truck-tractors, and for windshield condition. New regulations also add further safeguards against vision-reducing matter which obstructs drivers' vision.

The Department of Justice and the Food and Drug Administration continued their crackdown on the illegal sale of stimulant drugs, or "goofballs," to truck drivers by cafes, service stations, truck stops and drug stores.

**Aviation Safety.** The Civil Aeronautics Board created a new safety investigation division to increase the efficiency of accident investigations by coordinating every phase of the process. A new operations division will assist in determination of causes of aircraft accidents and in development of accident preventive measures.

The Federal Aviation Agency took a number of safety actions dealing with pilots. It set 60 years as a mandatory retirement age for airline pilots, effective March 15, 1960. The FAA held public hearings on proposals to prohibit airline pilots from handling jet-powered aircraft after they reach 55 years of age.

It issued new regulations requiring FAA approval for training programs, more comprehensive training and annual proficiency checks for co-pilots. It promulgated new regulations requiring private pilots licensed after March 16, 1960, to take special training in bad-weather flight safety.

FAA also considered safety from the medical angle. It announced plans for a Civil Aeromedical Research Center, "to develop scientific data necessary to further promote air safety for pilots, aircrews and passengers." It awarded two contracts for medical data to implement better safety standards. It is studying proposals to revise existing eye standards and eye-testing procedures for civil airmen.

In addition to issuing a new regulation on fuel reserves for multi-engine turbine-powered airplanes, FAA has under consideration an extensive airworthiness conference agenda.

**Government.** The U. S. Department of Labor's Bureau of Employees' Compensation reported that chargeable days lost by civilian federal employees through disabling work injuries decreased by 7 per cent in 1958 compared with 1957. Work connected fatalities also decreased.

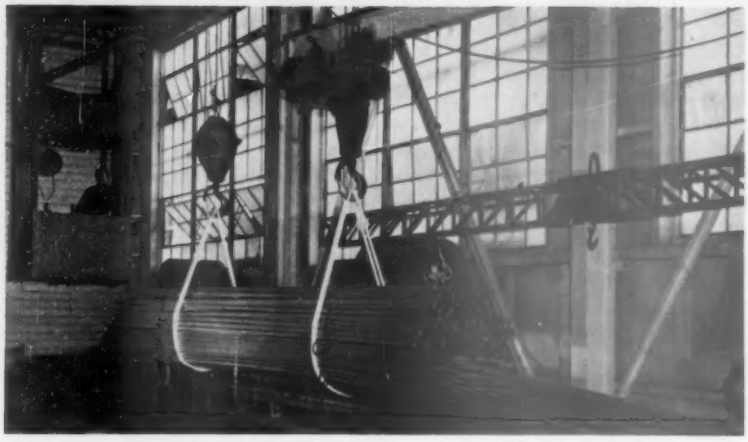
The over-all frequency rate for the entire civilian Federal Government was 8.1 disabling injuries per million man-hours in 1958. This rate is down 2.4 per cent from 1957, but is slightly higher than any of the preceding five years. The severity rate was the lowest recorded.

## THE MONTH IN WASHINGTON

- **Atomic Energy Commission establishes office of assistant general manager for regulation and safety and creates Aerospace Nuclear Safety Board to consider safe use of nuclear energy in space.**
- **Interstate Commerce Commission issues new regulations adding further safeguards against vision-reducing matter which obstructs motor carrier drivers' vision.**
- **New Civil Aeronautics Board operations division assists in determining causes of aircraft accidents and in development of accident preventive measures. New CAB safety investigation division to increase efficiency of accident investigation.**
- **Federal Aviation Agency announces plans for Civil Aeromedical Research Center and issues new regulation on fuel reserves for multi-engine turbine-powered airplanes.**
- **U. S. Supreme Court rules Safety Appliance Act's power-braking requirements applied to railroad's break-up and assembly movements of cars between its classification yard and shippers' factories.**
- **International Labor Organization group convenes to seek agreement on definition of industrial injuries for statistical purposes and on revised classification of accident causes.**

# No Rope Tricks

**. . . But synthetic fibers have shown amazing fortitude in hoisting and hauling heavy loads under destructive conditions**



A synthetic fiber sling of nylon webbing carries a 1,500-lb. impeller shaft assembly at Carrier Corp., Rochester, N. Y.

At Pacific Tube Company, Los Angeles, 5,000 lbs. of stainless steel tubing at once ride through pickling solution in endless strings of Dacron polyester fiber. (Du Pont Magazine photos)

FAKIRS from India would find themselves hard-pressed to duplicate some of the rope tricks accomplished by synthetic fibers today. Among these industrial performers are Dacron and nylon polyester cordage.

Rot and mildew-resistant, these uniform synthetics are light in weight and strong. Nylon is said to have more than twice the strength of comparable natural-fiber Manila ropes, while Dacron is just about two times as strong.

In the past half-year a new nylon has boasted breaking-strength properties 16 per cent greater than those of regular nylon. And the dry breaking strength of a 5½-in.-round rope made of the new nylon has been rated at 87,000 lbs. compared to 75,000 lbs. for regular nylon. The new yarn also has about three times Manila's reported ability to withstand repeat loading.

Carrier Corporation, Syracuse, N. Y., uses a variety of cordage and webbing slings in its machine and assembly shop, especially to carry compressor shafts and wheels along the production line. Coolant used in this firm's machining operations once degraded Manila slings so, they lasted about 12 days. But several slings of nylon and Dacron polyester fibers have served for eight months, and one sling is in use after more than a year.

Tight construction of the nylon and Dacron slings is said to prevent their picking up steel filings from machining operations and scoring highly machined surfaces. As a result, the Carrier machinery division first used nylon webbing to move electronic control units of commercial refrigeration systems. This webbing replaced wire cable, which had to be padded and even then sometimes marred painted surfaces.

Pacific Tube Company, Los Angeles, needed a sling for moving 5,000 lbs. of stainless steel tubing at a time through its pickling and cleaning operations. Natural-fiber rope disintegrated in the nitric-hydrofluoric acid pickling solution, and metal chains tended to mark and dent the tubing surface.

Patco now is using a ¾-in. endless-sling rope of Dacron. These slings have lasted about six months and have reduced the amount of expensive tubing rejected because of handling marks.

Elsewhere in the mill almost all tubing is handled on slings of nylon belting impregnated with neoprene synthetic rubber. The firm also has outfitted its receiving and shipping departments with hard-lay nylon slings that have been found stiff and durable.

Rice-Powell Elevator, Chicago, has been using 300-ft. shovel lines of Dacron polyester fiber. Unloading grain barges, the ropes go down a marine leg through pulleys from drums at the top. One line is connected to the rear of a scoop. Another line joins to the front. Two scoops hooked up in this way are then dragged back and forth through the grain, piling it on elevators that lift it from the barge.

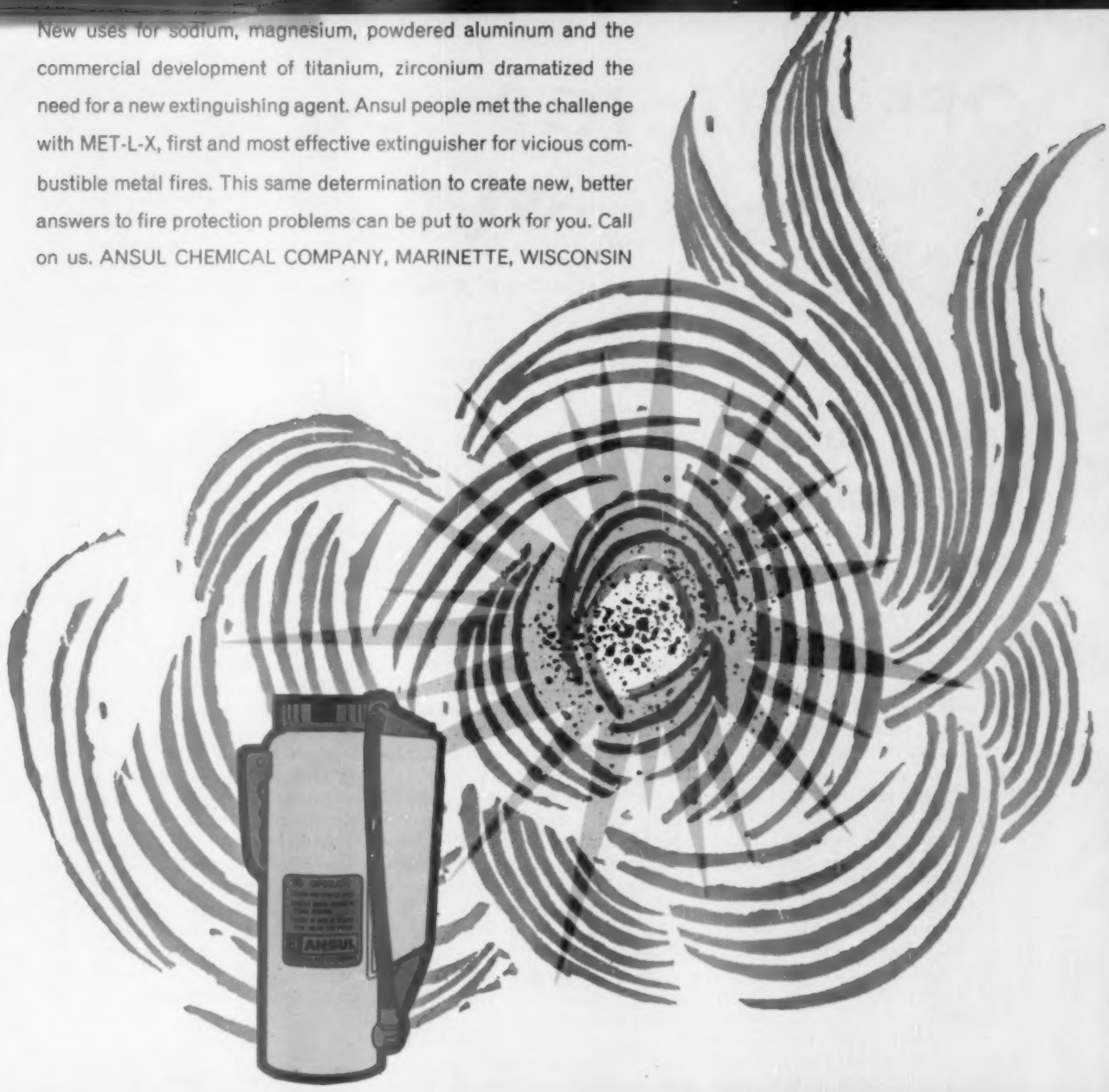
The Dacron lines were still up to par after unloading 3,000,000

— *To page 108*



Circle Item No. 10—Reader Service Card

New uses for sodium, magnesium, powdered aluminum and the commercial development of titanium, zirconium dramatized the need for a new extinguishing agent. Ansul people met the challenge with MET-L-X, first and most effective extinguisher for vicious combustible metal fires. This same determination to create new, better answers to fire protection problems can be put to work for you. Call on us. ANSUL CHEMICAL COMPANY, MARINETTE, WISCONSIN




*new products, new ideas for better* ***fire protection***

**ANSUL**

FIRE FIGHTING EQUIPMENT
REFRIGERATION PRODUCTS
INDUSTRIAL CHEMICALS

# OFF THE JOB

**Planning safety programs for your plant and community**

By HARRY C. JOHNSON

NSC Staff Representative, OTJ Safety Committee

## Safety Seeds Sown In School Labs, Workshops

ADVISORY COMMITTEES of experts, formed to safeguard students in chemistry labs and vocational workshops, are teaching safety in off-the-job efforts for future members of the country's work force.

Students are tomorrow's workers, supervisors, and managers. On a smaller scale, especially in labs and workshops, they're meeting the same hazards now that they'll encounter later in industry. In this sense, before-the-job protection and training is a tremendous advantage.

George M. Johnson, safety director of Diebold, Inc., Canton, O., and member of the NSC Power Press and Forging Section, found himself thinking along these lines, after a visit in 1958 by James O'Neil of the Industrial Department of the National Society for the Prevention of Blindness. This visit was to lead eventually to formation of the first safety advisory committee of experts and its dynamic part in school safety.

Looking back over the developing project, Johnson said: "The boys coming from these vocational classes will be coming to work in our plant in the not-too-distant future. And for a change, new hires won't look so surprised when we mention safety glasses, safety shoes, and other safety equipment."

Initially, O'Neil and Johnson met with local school board officials on current measures for eye protection in vocational and chemistry classrooms. Results were discouraging.

But an offshoot effort—Johnson's membership in the local Lions Club Sight Conservation Committee—enabled him to arrange discussions between O'Neil, club officers, and the zone chairman of the organization.

During these sessions O'Neil revealed that 30,000 serious eye injuries annually involved some loss of vision among our country's school children. And one such mishap ended in death from flying glass fragments in a chemistry lab.

Shocked Lions voted to encourage eye protection plans in local vocational and chemistry classes. And later that year O'Neil spoke at a Lions zone meeting, receiving additional support for this type of project.

After this groundwork and considerable promotion, Johnson was invited to speak on this subject at the summer 1959 workshop of state vocational supervisors. As one outcome, several schools adopted 100 per cent eye protection for their vocational shop classes: Washington High School, Massillon, Ohio, and schools in Bedford and Lima, Ohio. Other schools indicated interest.

At the next Lions state convention a resolution will be offered, placing this eye safety project on the Lions list of activities. It's likely that an offspring of this resolution will be presented at the Lions national convention, with widespread effect, safetywise.

However, the original basic tool of this work became an unofficial 50-man safety advisory committee at Washington High School. Members represented industrial plants, public agencies, insurance companies, and schools.

First, the committee inspected school vocational facilities, uncovering hazards. Then the committee recommended corrective changes to be made before school began in September 1959. Improvements varied from erection of a new emergency exit to the provision of safety cans for dangerous fluids.

A second committee meeting involved three major items: inspection of school facilities to make sure suggested corrections had been made and no new hazards existed; discussion of personal equipment—in addition to safety glasses—to be required of students; and the decision to continue the committee indefinitely as an available group of safety advisors.

And the project continues and expands. But at this point, several questions pop up. Isn't it true that industry expects schools to train students to operate machines or to do a job, and at the same time expects to train newly-hired graduates in safety? How many vocational teachers have memberships in safety groups? And how many safety men appear interested in vocational-classroom activities?

A tie-in between schools and industry safety training would seem obvious. Yet, in practice, the components of this trio often seem worlds apart. In preparing would-be workers for future roles in the nation's industrial life, schools have an obligation and an opportunity.

### Film Contest Opens

Entries are being received for the 1960 contest of the National Committee on Films for Safety in the fields of occupational, home, traffic and transportation, and general safety.

This 17th annual competition is for motion pictures and sound-slide films produced or released during 1959. Deadline for receipt of entries is February 15, 1960.

There is no charge for entering the contest, nor for awards to winning film sponsors. For entry blanks and other information, write to William Englander, Secretary, National Committee on Films for Safety, 5th floor, 425 N. Michigan Ave., Chicago 11.

# New Iron Age CATALOG FOR 1960

## Your copy is ready

Our new catalog is now being distributed. It has been carefully compiled to ease your problems in supervising a modern safety footwear program.

You can turn with confidence to the Iron Age catalog. In it you will find everything from high styled safety oxfords to sturdy work shoes . . . even safety rubber footwear. And all these numbers bear the unmistakable stamp of Iron Age quality and craftsmanship.

We would like you to have a copy of our new catalog. It's ready and waiting. Write or send the convenient coupon today.

**PACKED FULL OF COLOR ILLUSTRATIONS AND INFORMATION ABOUT IRON AGE SAFETY SHOES**

Iron Age
Union Made AFL
*The Safety Shoe for Industrial America*

**MAIL COUPON FOR YOUR FREE COPY**

**Iron Age Division, H. Childs & Co., Inc.** **Dept. 1**
**Pittsburgh 12, Pa.**

**Gentlemen:**
**Please send me without obligation a copy of your new Iron Age catalog.**

NAME_____ TITLE_____
COMPANY_____
STREET_____
CITY_____ ZONE_____ STATE_____

# for DISTINGUISHED SERVICE

## Winners of National Safety Council Awards for outstanding records

### Award of Honor

The American Brass Co., Torrington, Conn., Div.

Chrysler Corp., Michigan Missile Plant, Missile Div.

Columbia-Geneva Steel Div., Geneva Works, United States Steel Corp., Provo, Utah.

E. I. duPont de Nemours & Co., Niagara Falls Plant.

Ford Motor Co. (4): Engineering Staff, Sterling Plant; Transmission & Chassis Division; Rausonville Plant, Hardware and Accessories Div.; Marine Services, Steel Div.

General Dynamics Corp., Convair (Astronautics) Div.

General Electric Co. (2): Anniston Tube Plant, Anniston, Ala.; Specialty Control Dept., Waynesboro, Va.

Hughes Aircraft Co., Culver City, Calif.

International Business Machines Corp. (2): Federal Systems Div., Oswego, N. Y.; San Jose, Calif.

Merritt-Chapman & Scott Corp., Fort Pitt Tunnel Operations.

Phillips Petroleum Co., Production Dept., Bartlesville, Okla.

The Port of New York Authority, Police.

Ryan Aeronautical Co., Main Plant, San Diego, Calif.

Shell Oil Co., Narco Refinery.

Western Electric Co., Inc., Indianapolis, Ind., Works.

Westinghouse Electric Corp. (3): Bettis Atomic Power Div., Pittsburgh, Pa.; Electric Appliance Div., Columbus, O.; Air Arm, Baltimore, Md.

West Point Manufacturing Co., Fairfax Mill Div., Fairfax, Ala.

### Award of Merit

ACF Industries, Inc., Missouri City, Tex., Plant, W-K-M Division.

Aluminum Company of America, Cleveland, Ohio, Works.

American Can Co. (2): Arlington Plant 54-A, Arlington, Tex.; Central Laboratory 72-A, Maywood, Ill.

American Can Company of Canada Ltd., Hamilton Plant, 29-A, Hamilton, Ont.

Armco Steel Corp., Butler, Pa., Works.

AVCO Corp. (2): Cincinnati, Ohio, Plant: Evendale, Ohio, Plant.

Perth Amboy Refinery of The California Oil Co., Perth Amboy, N. Y.

Bendix Aviation Corp., York Div., York, Pa.

The Berkline Corp., Morristown, Tenn.

The Calvert Distilling Co., Relay, Md.

Chrysler Corp. (4): Engineering Div.; Service Parts & Accessories Supply Div.; Trenton Engine Plant Engine Div.; Vernor Trim Unit Stamping Div.

*—To page 84*

## Announce Changes in Council's Award Plan

Minor changes in the National Safety Council's Award Plan for Reorganizing Good Industrial Safety Records were officially adopted by the Industrial Conference of the National Safety Council through its Contest and Awards Committee, October 1958 and January 1959. The first two changes make it easier to qualify for certain awards; the third places restrictions on the groupings of two or more years as current experience.

#### Certificate of Commendation

Change in interpretation only, paragraph 17, page 6:

Past interpretation required perfect calendar years totalling 200,000 hours (exclusive of fractional years).

New interpretation requires a perfect calendar year and 200,000 hours since the last injury.

#### Awards for Continuing Improvement

Addition to follow paragraph 27, page 6:

A unit earning an award for a calendar year will continue to receive at least the same level of award for following years, so long as its record is as good or better than in the year of original award, regardless of table requirements.

#### Combining Two or More Years For Current Experience

Paragraph 1, page 15, has been changed to read:

Since the amount of exposure determines in an important way whether or not current trends are reliable and statistically significant, the requirements which must be met are less for larger exposures. Consequently, smaller organizations have the option of expanding the current period to include additional consecutive calendar years and thus qualify for recognition of trends which might not be significant for a smaller exposure.

The current experience submitted for evaluation ordinarily will consist of one calendar year—January 1 through December 31. However, a unit operating less than 1,000,000 man-hours in the current year may use two or more consecutive calendar years for current experience. The years combined, though, excluding the oldest year, may not exceed 1,000,000 man-hours. That is, to any number of the most recent years whose experience totals less than 1,000,000 man-hours, may be added one more year. (For example: a current year with 700,000 man-hours may be combined with the immediately preceding year, to total 1,000,000 or more, or three years of 300,000 each may be combined with the immediately preceding year to total 1,000,000 or more, etc.)

Inquiries regarding these changes or requests for copies of the Award Plan should be addressed to Statistics Division, National Safety Council.

# WILLSON'S NEW ONE-BRIDGE-SIZE MONOSPEC

fits 95 out of 100 faces

## Slashes 3 major costs of eye protection

The real cost of eye protection is man-hours, don't you agree?

People away from the job for fittings . . . lost time for replacing broken or lost spectacles . . . delays in outfitting new employees . . . ordering, stocking, and keeping records. The cost per worker easily can add up to *three times* the purchase price of spectacles.



Willson's new MONOSPEC saves man-hours. The patented bridge, with integral contoured nose pads, fits 95% of all faces. It's *human engineered* to the average worker—just like your production tools have to be.

MONOSPEC's unique "universal" bridge brings new functional advantages, too. There are no sharp corners, no pivots to break, nothing to corrode—contoured shape increases strength. Large contact area distributes the weight evenly, makes spectacles feel lighter and more comfortable.

Here's a practical idea for your program—safety *with savings,* plus Willson quality. Available in 2 lens sizes—F46 and F48. Spatula-style temples are standard. Also available with plastic-cable temples.

Phone your safety equipment distributor for a demonstration . . . and see how MONOSPEC reduces the number of *hard-to-fit* people in your plant.

**WILLSON®**

Willson Products Division, Ray-O-Vac Company, Reading, Pa.

Canada: Safety Supply Co., Toronto, Ontario



Circle Item No. 12—Reader Service Card

# *Psychology Can Help You*

# PICK YOUR MEN

**Fitting the man to the job is the first step in an effective safety program . . . and it's best done by a skilled psychologist**

**By C. G. EVANS**

Personnel Manager, North American Coal Corporation, Cleveland, Ohio

SCIENTIFIC SELECTION and placement of personnel through skilled management consultants has proved a necessity and a benefit to industrial operations such as ours—coal mining. This has become particularly true regarding safety, because of our low position in severity and frequency, compared to other industries.

Years ago, mining workers lived around mining properties, as a result of transportation difficulties. In most cases, selection of employees was fairly simple, because we knew applicants personally. In this light, the use of proper application forms, interviewing skills, and any form of testing seemed valueless.

And sometimes the lack of available applicants even required us to hire undesirable workers. Also, we occasionally had to lay off groups of employees in reducing the work force.

Generally, this situation brought about a complacent attitude toward employment procedure. However, we have become aware of the size of this problem in our own corporation for various reasons: numerous accidents; need for a higher caliber employee, as result of automation, in classified and certified or salaried levels.

I maintain that the selection of workers can only be properly done by a skilled psychologist with years of experience in selection and placement. I speak as a layman and not as an experienced psychologist. But to understand our emphasis on selection, it's necessary to look at what psychologists and other experts have found about accidents and their causes.

Psychological studies have been made of fatigue, span of attention, speed in reacting to signals, and of other conditions. During World War II emphasis turned to design of equipment for effective human operation. Military investigators found many instances where safety could be improved by better engineering, taking into consideration an operator's capacities. A new field—engineering psychology—was born.

## Personality Traits

It looked as though attitudes workers bring with them to the job also played a great role. For example, the single largest infringement of the law resulting in traffic accidents is violation of the right-of-way. This is certainly an attitude or judgment problem and not one of technical breakdown in equipment.

This led to an attempt to see whether certain types of personality would be more prone to have accidents than others. One factor of great significance has emerged from such controversial but inconclusive "accident-prone" studies:

We need to consider the total individual and his over-all attitude toward life (and his job in particular), if we're to get anywhere in improving the use of technological developments for reducing accidents. Evidence has accumulated to show workers, who are "solid citizens" in personal and job adjustment, are less likely to have accidents than those not so stable.

All working conditions being equal, the most reliable, productive employee makes fewer bad moves on the job and is less likely to have an accident. Aggressive, irresponsible, erratic performers not only are more susceptible to accidents but tend to show lateness, poor cooperation, and short tenure in their employment history. And they may get into difficulties in personal off-the-job behavior.

In one study Seth Jackson of the U. S. Forestry Service said: "Among the many sound features of the accident prevention program, emphasis should be placed on the human engineering effects of management's job."

From critical analysis of accidents, Jackson learned that fire-fighting injuries suffered in 10,000 forest fires yearly were sustained by ill-clad men in poor physical or men-

TABLE I—ADJUSTMENT AND ACCIDENTS

| | Number in High Accident Group (%) | Number in Low Accident Group (%) |
|---|---|---|
| Broken Home | 25 | 5 |
| Appeared in Juvenile Court | 50 | 10 |
| Truancy | 25 | 5 |
| Irregular Work | 40 | 15 |
| Fired from Job | 25 | 0 |
| Marital Discord | 15 | 5 |
| Contacts with Social Agencies | 35 | 5 |

Presented before the Coal Mining Section, 47th National Safety Congress, October 1959.

NEW!

# SCHRADER INDUSTRY-INTERCHANGEABLE HI-FLO* AIRLINE COUPLER!

## SAFE PUSH-PULL OPERATION
## ACCIDENTAL UNCOUPLING NO LONGER A PROBLEM!

Schrader's new quick-acting couplers are full of features that afford the best air service. Safety's built in . . . it won't open accidentally even when dragged on the ground and snarled on a piece of machinery . . . yet the heavily knurled new coupler connects and disconnects in a single upstream push or pull with *one hand, gloved or greasy!*

More features: fastest air flow . . . non-corrosive . . . case hardened steel all through . . . meets and exceeds military specs . . . engineered for simple, easy replacement of parts in the field.

Important: Schrader's new coupler is interchangeable with others of similar type. A variety of end fitting styles are available. See your supplier soon.

**NEW COUPLER CHECK UNITS AND ADAPTERS**

#5139-12—¼ N.P. FEMALE

#5138-12—¼ N.P. MALE
#5140-12—⅜ N.P. MALE

#5138-11—¼ N.P. MALE

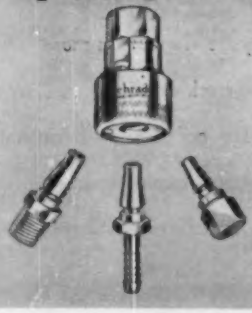
#5139-11—¼ N.P. FEMALE

#5140-11—SERRATED SHANK FOR ⅜ I.D. HOSE

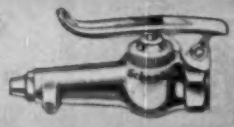
## . . . added to these quality Schrader Accessories

SCHRADER HOSE REELS work like window shades. Tuck hose away automatically. No. 3401 is Air Tool Suspension Type.

SCHRADER LUB-AIR-ATOR does 3-way jobs: filters, lubricates, regulates. Keeps systems operating smoothly.



SCHRADER STANDARD COUPLERS WITH FASTER FLOW are now being shipped.



SCHRADER LEVER TYPE BLOW GUN offers precision control, from a gentle puff to a full blast.

SCHRADER BUTTON TYPE BLOW GUN is all-purpose, easy-operating, with durable forged brass body.

*Reg. U. S. Pat. Off.

Schrader
a division of SCOVILL

A. SCHRADER'S SON
*Division of Scovill Manufacturing Company, Incorporated*
470 Vanderbilt Avenue, Brooklyn 38, N. Y.

QUALITY AIR CONTROL PRODUCTS

REDUCE ACCIDENTS
with
Ready Made SIGNS
DANGER
KEEP FROM UNDER CRANE LOADS
CAUTION
HARD HAT AREA
CAUSES OF ACCIDENTS
1 I DIDN'T THINK
2 I DIDN'T SEE
3 I DIDN'T KNOW
Warning signs strategically placed in all areas, inside and outside your plant, will greatly reduce accidents. Ready Made Signs for Safety are available in more than 2000 stock wordings . . . Why not send for our 4-color completely illustrated catalog today?
Ready Made
SIGNS FOR SAFETY
READY MADE SIGN CO., INC.
115 WORTH STREET • NEW YORK 13, N. Y.
signs for industry since 1861

tal condition, and that emergency fire-fighters were recruited too hastily and without proper mechanical screening. To help eliminate accident-prone workers and misfits, recruitment and placement cards have been prepared and put into use.

Wong and Jobbs, industrial psychologists, recorded accident proneness in a large brewery. One department had an acident rate four times that of the entire brewery. Because the basic risk or hazard for each worker was relatively constant, a group of "accident-prone" workers were chosen from this department. A similar number of employees were selected and labelled "accident free." Other groups had about the same age level and service records. Information on all these persons was available at the time of hire. (See Table I.)

Dr. Lawrence LeShan, studying several groups of accident-prone individuals and those with excellent safety records, concluded these facts:

*Characteristics of accident-prone individuals:*

1. Superficial ties — few close friends.
2. Preoccupation with health and body.
3. Frustrated level of aspiration.
4. Very selective in perception—distort reality.
5. Aggression toward authority and organization—fight with supervisors.
6. Poor planning for future — no long-range goals.

(Basically impulsive, aggressive, irresponsible persons.)

*Characteristics of safety-prone individuals:*

1. Warm relationships with others—good citizens.
2. Good contact with reality—know where they stand.
3. Ambitions more in terms of doing good job.
4. Report less illnesses.
5. Not aggressive toward organization and authority in present job—get along well with the boss.

(Basically solid, responsible, stable persons.)

Dr. Harold E. Kerber made a comprehensive study for his doctoral dissertation: "A Study of Individual Differences in Behavior Patterns as Related to the Problem of Injury Distribution in an Industrial Setting." Dr. Kerber's opinion is that not enough stress has been placed on unsafe acts in relation to injuries. He found that a man nor-

mally had a pattern of unsafe acts before finally becoming a part of an injury-producing accident.

His evidence proved that individuals rated relatively unsafe on a job-behavior check list tend to have more injuries than those rated relatively safe. This check list consists of questions on specific instances as to what the individual would do or his opinion might be. Incidentally, several hundred supervisors helped Dr. Kerber develop these questions in making queries relating to job behavior.

Dr. Kerber also found that individuals rated relatively safe in job behavior tend to have higher overall merit rating scores. If a supervisor rates a man as a good employee, the man will be relatively safe, opposed to a man having a poor performance evaluation. This is especially true in group situations; productive work groups have fewer individuals with safety problems.

By checking various industries, Dr. Kerber found that workers on production jobs are rated no differently on the job-behavior check list than are persons on indirect jobs or maintenance work (day work). The study revealed that age is not significantly related to safety behavior. Time or seniority on a particular job seems to have a higher degree of validity on accident scales than age.

In his samples there is a strong similarity between the individual's attitude and general living pattern to his safety or accident experience. Dr. Kerber concludes: the way in which a person does his job is related to whether or not he gets hurt while performing it. For this reason, until further research validates specific factors for which we can test, Dr. Kerber feels that from the standpoint of safety, we must continue to select on the basis of job skills and abilities as they relate to total job performance.

Dr. Kerber said: "In sum, the results of the present research tend to support the position that it is not just a single behavior incident, but total normal behavior day in and day out which is important in the prevention of accidents and injuries." I agree.

*Personnel Psychologist,* Vol. 3, No. 4, Winter 1950, carries an article titled: "Can Personality Tests

*—To page 105*


ŌNOX®

SKIN TOUGHENING
PREVENTS ATHLETE'S FOOT

Skin specialists say the best way to prevent Athlete's Foot is to increase the skin's resistance to fungus growth*. That's what Onox does. It keeps shoe-softened skin as tough and healthy as your hands.

Onox has been used for many years by clubs, schools, and over 70% of the largest U. S. companies for the treatment and prevention of Athlete's Foot.

*American Pub. Health Assoc., Oct. 15, 1954

new footsprayer
CUTS COST 50%

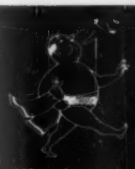
60-DAY
TRIAL OFFER

*includes Footsprayer and solution*

If you are not completely satisfied after 60 days use, you pay nothing . . . just return the sprayer freight collect.

Easy to use.
Bathers step on treadles.
Four jets spray feet.
Sanitary, easy to keep clean.
Uses only half as much solution as the sponge footmat.
Reduces cost to 1/10c per treatment.

*Write for FREE brochure with complete information including medical opinions.*



ONOX INC.
Dept. A, 121 Second Street, San Francisco 5, Calif.
Warehouses: Cleveland • Jersey City • New Orleans • Newark, Calif.

# PERSONALS

## News of people in safety and related activities

WENDELL R. BLAIR has been appointed North Atlantic Area Consultant for the Division of Safety Standards and Services, U. S. Department of Labor. He will coordinate safety consultation services for federal and state government agencies, organized labor unions, associations, industry, and educational institutions.

Mr. Blair will be headquartered at the recently opened Department of Labor offices at 325 West 44th St., New York. Prior to his joining the department, he served as district safety officer for the U. S. Maritime Administration, developing and operating a program of accident prevention at the U. S. Maritime Academy at Kings Point, N. Y., three Reserve Fleets and other U. S. Maritime installations on the Atlantic Coast. He has served as an engineering specialist for two large insurance companies and on the staff of the National Safety Council.

He attended Northwestern University and during World War II was safety engineer for one of the country's largest producers of aluminum.

JAMES S. MYERS has been appointed director of safety for Atlas Van-Lines, Inc., Chicago. After serving three years in the Army Transportation Corps, Mr. Myers entered Michigan State University and was graduated with a degree in business administration. He also completed post-graduate study in motor fleet operations, claims, and sales.

Mr. Myers entered the motor carrier field with the Interstate Motor Freight System and later served with two other carriers as personnel and safety director before coming to Atlas.

CLYDE E. WILHITE, civil and safety engineer, is the new safety engineer for the U.S. Army Engineer Division, Pacific Ocean, Fort Armstrong, Honolulu, Hawaii. Mr. Wilhite will take the place of Richard W. Goodall, who returns to his former post as safety engineer for the Fort Worth District.

Mr. Wilhite has just served as construction engineer with Headquarters Air Defense Command, USAF, Colorado Springs, Colo. Previously, he has accumulated about 12 years of safety engineering experience in 25 years of government service.

In 1931 Mr. Wilhite was graduated with a degree in civil engineering at the Missouri School of Mines.

CLARENCE W. ROWSEY has been named personnel and safety director for Hamilton Foundry Inc., Hamilton, Ohio. He rejoins this firm after two years in the Wage and Salary Administration Department, National Lead Company of Ohio. Previously, he had served 10 years in the Employment and Personnel Department of Hamilton Foundry.

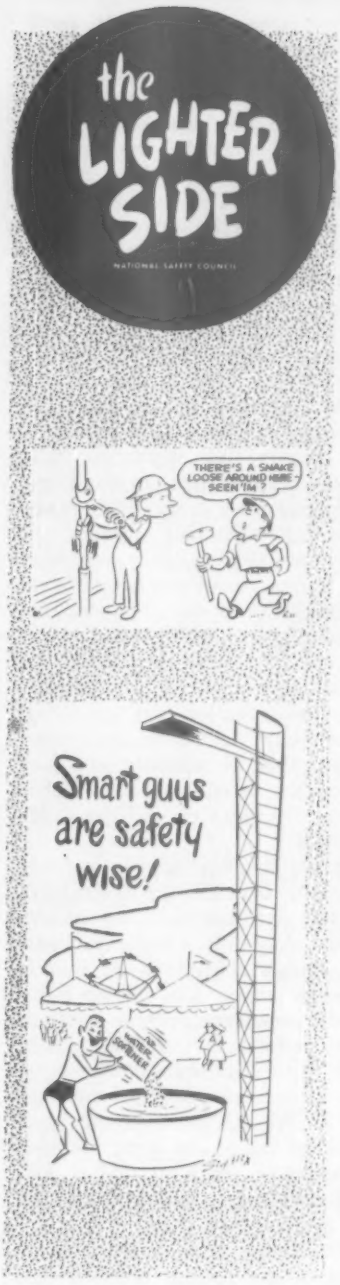
Mr. Rowsey has attended Miami University and the University of Cincinnati. He is active in the Midwest Compensation Association, the Hamilton Safety Council, and the Chamber of Commerce.

Appointment of ROBERT M. HOLDERIED as district safety engineer for the Northeast Section of the United States has been announced by American-Marietta Company. The area includes Ohio, Pennsylvania, Virginia, West Virginia, Delaware, New Jersey, New York, Massachusetts, Connecticut, Vermont, Maryland, and New Hampshire.

Mr. Holderied attended Northern Illinois University and the University of Miami and is a member of the American Society of Safety Engineers, Chicago Chapter.

Prior to joining the American-Marietta Company, he worked with the Kemper Insurance Company for seven years as a field safety engineer in Illinois.

He will be headquartered in Pittsburgh, Pa., and will coordinate accident prevention programs for the firm's 65 plants in the Northeast area.



# *SAFETY IS THE FIRST LAW OF NATURE

Nature has kindly endowed all living creatures with the ever alert instinct of self-preservation. Only man breaks this first law of nature and most often by acts of omission. When man fails to protect himself against the hazards of his daily work, by *every* available means, he breaks the law and as surely invites trouble for himself, his family and his employer.

Safety Box Toe Company are pioneers in the field of foot safety. Over the years we have devoted our untiring efforts *exclusively* to making new and better *Austempered* Steel Box Toes.

19 styles of safety box toes are now available for your every safety shoe requirement. WINGUARD Steel Toes, our latest development in modern foot protection, are by far the most popular!

*"Self preservation is the first law of nature" — *Samuel Butler, 1600-1680*

*Write today for your illustrated copy of*

*A PROGRESS REPORT OF INDUSTRIAL FOOT PROTECTION*

**Safety Box Toe Company**

812 STATLER BUILDING · BOSTON

# Researcher Says Risk Necessary for Maximum Production

**A national plant management magazine recently reported on industrial research that seemed to prove that the most productive workers were the least safe. This has disturbed some safety men—men who have watched production climb over the years that the accident frequency and severity rates fell lower and lower. The editors of NATIONAL SAFETY NEWS found a more complete version of the research results. It is printed here in full without changes. We did take the liberty of putting one of the more interesting paragraphs in italics.**

AN OHIO STATE University engineer, who thinks "some risks may be required" for workers to be highly productive, says the average industrial employee continually exposes himself to accidents.

This was one of the several conclusions drawn from a study recently completed by Dr. Thomas H. Rockwell, assistant professor of industrial engineering, who is trying to develop a better yardstick of safety performance.

The industrial engineer reported that the assembly line employees studied in a Columbus plant violated safe work practices 17 per cent of the time.

"There is no such thing as an absolutely safe worker, because every one of the employees observed in the study committed violations of safety practices every day," he said.

Dr. Rockwell explained that each worker was observed at random intervals 25 times a day during 23 working days. None of the assembly line employees knew they were being observed.

During the period of the study, an individual's violations of safe working practices ranged from 5 per cent among the more careful workers up to 30 per cent for other employees.

Unsafe acts included working with tools underfoot, not using goggles when required, working under suspended loads, running, and using damaged tools.

The Ohio State engineer said that while no record was kept of each worker's production, the foreman and assistant foreman were asked to rank the employees according to their productivity.

"It was found that the worker who was the most consistent violator of safety practices was considered by the foreman to be the most productive," Dr. Rockwell said. "Moreover, the safest worker observed was considered the least productive. This suggests that for some jobs, workers must subject themselves to risks to appear maximally productive." he added.

The report showed that the top 35 per cent of the workers accounted for 60 per cent of the total first aid cases resulting from unsafe assembly line behavior.

But he noted that a worker with a 30 per cent unsafe behavior rating had 95 first aid accidents during a three-year period. He found this measure of safety performance predicts accidents.

*The researcher's carefully noted records, obtained from observations made on a catwalk above the assembly line, suggested that "the consequences of unsafe behavior may not just be lost time accident and first aid costs, but may involve a decrease in production efficiency and the cost associated with this efficiency."* [Italics ours].

The group percentage of unsafe behavior dropped from 17 to 3 during shop inspections, the engineer noted. On the day following the inspection, it climbed to 7 per cent and within four days was back at 17 per cent.

He said that increasing the frequency of inspections apparently was not the answer. A second inspection was held 10 days after the first, instead of the normal 30 days. Safety violations dropped to only 5 per cent and returned to 17 per cent in four days.

"Such accident prevention methods as inspections apparently have only a temporary effect on workers' behavior," he said.

The Ohio State engineer said the procedure of making random checks on the workers enabled him to collect a large sample of behavior in a short time, and when obtained without the worker being aware of it, could provide a valid indicator of safety behavior.

He suggested that the method "may be used to predict lost time accidents and first aid cases before their occurrence."

Dr. Rockwell said the new yardstick "may reopen the entire question of the accident-prone worker, describing him not in terms of lost time accidents which are rare chance events, but in terms of the extent of unsafe practices engaged in."


**NOTICE**

Under the trade-mark laws of the United States and the provisions of its Congressional Charter the National Safety Council has obtained trade-mark registration and legal protection for its emblems, including the Green Cross for Safety emblem, and the Universal Safety emblem, as shown below:

Pursuant to its legal rights, and in order to carry out its obligation to the public, the National Safety Council has adopted a policy that these trade-marked emblems may not be used, under any circumstances, without its approval and authorization. The policy, adopted by the Board of Directors of the Council, is available on request.

# ANY MAN CAN WEED-PROOF 10,000 SQUARE FEET IN TEN MINUTES...with UREABOR

*–just apply* **UREABOR**® *and you can forget about weeds for the season!*

Think of the savings—in time *and* money—this weed killer offers you! UREABOR is the special granular weed killer meeting all requirements of industrial users. A little does a lot! One DRY application of only 1 to 2-lbs. per 100 sq. ft. creates weed-free areas anywhere for a whole year! UREABOR is safe, effective, economical and convenient. It's always ready for use direct from the bag—in the easiest possible way—to destroy weeds and protect your property from grass fires.

**A SPECIAL SPREADER** simplifies and speeds UREABOR applications at low rates with accuracy. Spreader holds enough UREABOR to treat 1250 sq. ft. without refilling; weighs a mere 6 lbs. Width of the swath can be adjusted.

**UREABOR IS 2 HERBICIDES IN 1...** The plant-destroying powers of 2 proven herbicides are combined in this granular complex of sodium borates and substituted urea (3-P-Chlorophenyl, 1-1, dimethylurea) to yield superior, non-selective results.

**STANDARD PACKAGE IS 50 LBS.** UREABOR is packed in multiwall paper sacks for easy handling—easy storing. A convenient package, easily disposable, for spotting at predetermined intervals to facilitate large-area applications.

*Write for literature:* **UNITED STATES BORAX & CHEMICAL CORPORATION**

630 SHATTO PLACE • LOS ANGELES 5, CALIFORNIA

## Tension—and How to Live with It

—*From page 19*

tween tension and performance. This was an application of what is known as Fechtner's Law. Dr. Fechtner first stated his principle of stability of tension in connection with emotional disturbance, but it holds equally well for all three—physical, mental, and emotional.

### Fechtner's Law

The tendency of human organisms is to keep tension at as low a level as possible because:

- An increase is felt as painful.
- A decrease is felt as pleasurable.

This is true of all three tension components as well as total tension. Keep this law in mind, for it underlies what we shall discuss about resolving tension and keeping our "operating range" (tolerance for tension) at a maximum.

Obviously the solution to our problem lies not in eliminating tension as such, but in how to obtain and maintain the benefits of tension in performance and living without incurring the possible penalties and damage which result from tension reaching the intolerable range.

In other words, what are the practical things we can do as professional safety people and see that supervision and employees make use of them in day-to-day operations? Folks who are either apathetic or struggling to resolve and reduce tensions beyond their limits of tolerance are unquestionably vulnerable to accidental injury.

Before we turn to our practical, usable solutions and aids, let's make sure we are well aware of a feature of how tension operates that has only been implied so far in our discussion. I refer to the variability in tension tolerance range and normal level of performance for different individuals and for the same person.

Figure 3 shows the operating range of a person's tolerance for tension.

Figures 4, 5, and 6 show how this may vary for different people and to some extent for an individual as an emotional overlay or crisis occurs which increases emotion either temporarily or on a continuing basis. Although excess emotional tension is the usual source of difficulty, it may, of course, be an excess of any one of the three components since there is interaction among them.

Fig. 4 repeats the relationship between Total Tension and Performance without any emotional overlay of anxiety or fear. It is a simplified version of Fig. 3.

Figure 4 shows how an emotional overlay of anxiety and/or fear can reduce a person's operating range or tolerance for tension as the result of a passing emotional situation or crisis.

FIGURE 6

EFFECTS OF UNRESOLVED EMOTIONAL OVERLAY ON TOLERANCE RANGE & LEVEL OF PERFORMANCE

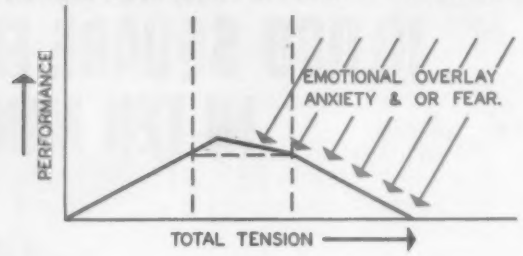



Figure 6 depicts how an emotional overlay of anxiety and/or fear can reduce both the operating range or tolerance and level of performance as well, as the result of panic or a continuously maintained emotional situation which the individual cannot resolve.

Before we turn to the practical, usable things we can do to offset and alleviate the undesirable tension factors and get the benefits from proper use of tension, I want to make several points clear.

In this article I am limiting the things we can do to those that apply to folks who are not so deeply involved emotionally as to require professional psychological or psychiatric help. We are going to talk about things that management and supervision can do in a work setting or, in fact, life in general. We are interested in things we can do as safety people or can inspire others to do.

Secondly, I am going to stress

—*To page 109*

FIGURE 5

EFFECTS OF UNRESOLVED EMOTIONAL OVERLAY ON TOLERANCE RANGE

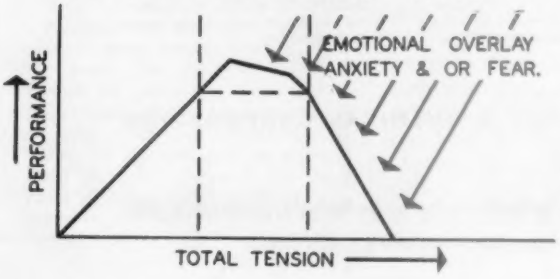
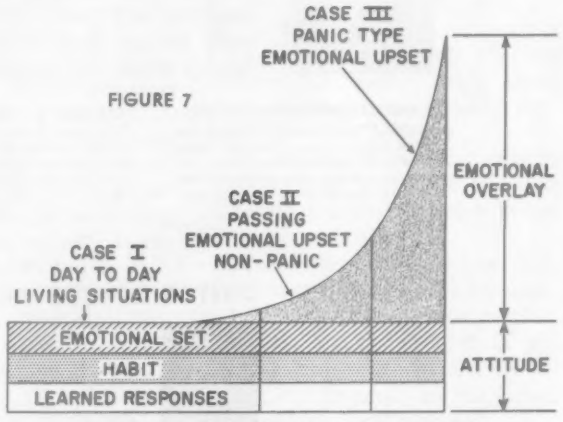



FIGURE 7




TYPES OF ATTITUDE SITUATIONS

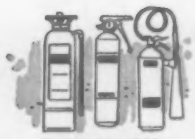
# Fyr-Fyter

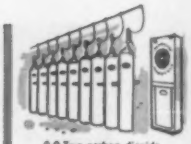
## protects the names you know

To protect its handsome new Central Office Building at Dearborn, Ford Motor Company installed 127 Buffalo pressurized water extinguishers and 12 Buffalo dry chemical extinguishers. These modern simply-operated extinguishers are instantly ready for fast fire-killing action throughout the 950,000 sq. ft. headquarters building.

Buffalo is one of 9 famous brands of fire protection equipment offered by The Fyr-Fyter Company. All of Fyr-Fyter's 1200 products are available from Fyr-Fyter, Pyrene C-O-Two and Buffalo industrial distributors. Look for their local listings in your Yellow Pages under "Fire Protection Equipment." Or write to The Fyr-Fyter Company, Dayton 1, Ohio.

**FORD** CENTRAL OFFICE BUILDING


Fyr-Fyter, Pyrene-C-O-Two, Buffalo fire extinguishers


C-O-Two carbon dioxide, dry chemical, foam systems

Globe sprinkler systems

Fyr-Fyter fire alarm systems

Municipal, industrial fire hose

Hose and extinguisher cabinets

Wooster brass fire equipment

Fire department supplies

Fyr-Fyter

Branches: Atlanta, Baltimore, Boston, Chicago, Dallas, Dayton, Detroit, Los Angeles, New York, Newark, Philadelphia, Pittsburgh, Portland, Rochester, San Francisco, Toronto (Ontario). Representatives and Distributors in all principal cities.

MAINTENANCE CHART
Bi-Monthly
Due
Date Checked By
1 CHECK ROOF for LINT
2 CHECK TUMBLERS and STACKS for LINT
3 OIL ALL MOTORS in BOTH PLANTS
4 OIL ALL PRESSES in BOTH PLANTS
5 LUBRICATE WASHERS in BOTH PLANTS
6 LUBRICATE EXTRACTORS in BOTH PLANTS
7 LUBRICATE MAIN
8 CHECK and OIL MARKING MACHINES
9 CHECK OIL LEVEL in CHECKS
Replace Guard on 42X36 Washer
Monthly
12 CHECK and CLEAN BOILER TUBES
13 CLEAN and OIL WHEELS on HAND TRUCKS
14 BLOW DOWN LINT
15 REPAIRS and INSTALLATIONS

Recognition for safe work is included with the efficiency ratings of the various groups, says Earle Olsen, vice-president and safety director.

Chart lists monthly and bi-monthly preventive maintenance services. Safety correction needs are posted on this board.

# A Homespun Safety Program

**It's simple, it gets everybody in the act . . . and it works!**

NO DISABLING INJURY for 14 months and only one in 41 months is the score for the 61 employees at Seminole Laundry and Cleaners, Tampa, Fla.

The safety program at Seminole is under the supervision of Earle Olsen, vice-president and safety director. Olsen was formerly with the Oak Park, Ill., Police Department for 22 years and supervised safety record work there.

"At Seminole we cooperate closely with our employees and our insurance carrier," Olsen says. "We keep a log of all safety recommendations, including full details on any accident. This is turned over to the inspectors each time they call.

"Carrier inspectors are with us each three or four months. They check all installations we have made, recommend safety improvements and suggest ways we can better working conditions to help prevent accidents. A general employees' safety meeting is held when the inspector visits the plant, if he deems such a meeting advisable."

On a blackboard listing bi-monthly and monthly preventive maintenance services, the engineer and superintendent also list accident prevention corrections which they've found necessary through their joint weekly plant inspections or which have been recommended to them by other employees.

When such a safety correction has been made, a detailed report is given to the safety director. If the need for correction comes as a suggestion from an employee, this is noted on the report and the employee's name is listed.

"As soon as I receive this information," Olsen says, "I go to the employee and thank him in front of other workers and tell him how important such suggestions are."

A letter thanking the employee for his safety contribution is then sent to him at his home. Later he receives monetary recognition.

The plant has 10-minute mid-morning and mid-afternoon refreshment breaks. Employees are also free to take such a break at any time they feel the need for one.

"Our employees don't over-use this added liberty," Olsen says.

—*To page 103*

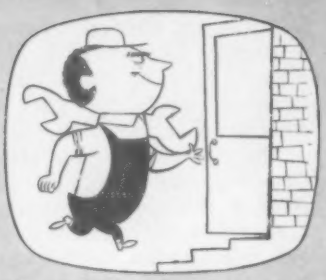
This belt had been exposed until a member of the flatwork team suggested this guard of angle iron and expanded metal. John Thomas, plant superintendent, is inspecting it.

At Seminole we've learned that a refreshed worker does safer and better work, says Olsen.

*4-Way® Safety Plate Presents*

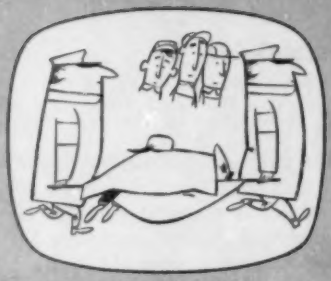
A GRIPPING TALE OF LIFE ON SKID ROW

# THE BIG SLIP!

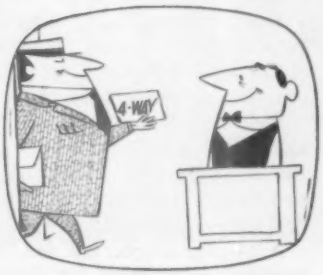


**Enter our star—Benny Bandsaw.** Great guy on the production line. Mr. America to his wife and kids. Every day Benny and millions just like him, go to work on Skid Row.

**Watch it, Benny—look out!** Wow! Too bad. On Skid Row, what *on the surface* appears to be a safe place to work, may turn out to be a surprise for Benny and his buddies.



**And thus, another Skid Row tragedy.** Our hero gets the slip and the result is *lost* time...*lost* production...*lost* safety records . . . and *lost* money.



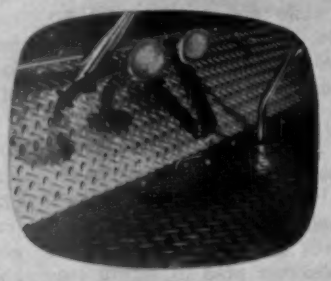

**But...help is at hand.** Enter 4-Way salesman...J. W. Goodheart...genial representative for versatile, slip-resistant 4-WAY Safety Plate!

**Solution? Yes, Sir!** Industrial plants, stores, offices, schools, hospitals, all over the USA, use 4-WAY . . . find it SAFE, STRONG, EASY TO CLEAN, ATTRACTIVE!

**What's more,** 4-WAY can be flame cut, sheared, sawed, drilled, punched, welded, formed . . . it is simple and EASY TO FABRICATE!

**FIRESAFE, too!** 4-WAY is an added safeguard for your people, your plant, your equipment and stock . . . and my how those insurance men appreciate it.

**When it comes to installation and maintenance,** no special tools or skill is required. Inland 4-WAY Safety Plate is one of the most ECONOMICAL materials you can use!



**And don't overlook** the advantages of super-strong, mighty-attractive, 4-WAY on the products you make. It can add an important merchandising feature that will help boost sales.

AMERICAN STEEL WAREHOUSE ASSN.

INLAND

## 4-WAY® SAFETY PLATE

**Available at your Steel Service Center or from Inland in a wide variety of patterns and sizes.**

**INLAND STEEL COMPANY**

**30 West Monroe Street • Chicago 3, Illinois**

# THE SAFETY LIBRARY

**Reviews of books, pamphlets and periodical articles on accident prevention and occupational hygiene**

By LOIS ZEARING, Librarian, NSC

## A Practical Guide

*Modern Safety Practices.* By Russell DeReamer. 357 pp., illus. John Wiley and Sons, Inc., Philadelphia, 1958. $7.

IN THE PREFACE the author expressed the hope that the book would become a practical guide to supervisors and safety engineers. The book is now a year old, and it has indeed become a practical guide for industrial people, also a valuable reference and text for teachers of safety in industry and in colleges.

Five major parts make up the book.

*1. Safety Philosophy and Principles.* The supervisor's leading role in safety is stressed, as well as the effect of a good plant safety program on the safety of employees and their families away from work.

The ratios of unsafe acts to unsafe conditions and of minor to major injuries are treated realistically, not neglecting traditional concepts but interpreting them in the light of modern preventive methods.

"Accident Proneness, Fact or Fiction" is a reasonable chapter which, while not discouraging researchers, should give comfort to young safety engineers who have not "found a test."

*2. Creating and Maintaining Safety Awareness.* Personalized safety training as against mass training has been a major tenet of Russ DeReamer's faith for several years. It receives full treatment here. A safety observer plan to secure employee participation and reasonable safety rules supplements the personalized training.

*3. Developing Safe Working Conditions.* "Human Factors in Machine and Equipment Safety" is the keynote chapter of this section. "By giving attention to how the worker is likely to react rather than how the supervisor would like him to react, the relationship between the man, the machine he operates, and his work environment will be improved." This is a fresh approach to safeguarding. The section contains 40 pages of accident case histories, invaluable for discussion groups.

In four remaining chapters, machine guarding, noise, fire prevention, and personal protective equipment are covered in detail.

*4. Appraising, Analyzing and Measuring Safety Performance.* Discovering hazards that may cause accidents, and discovering causes that have produced accidents are, of course, the foundation of all good safety work. Yet they are often neglected. Here they are treated interestingly and correctly with suggested forms and check lists and formulas.

*5. The Safety Engineer.* Many students in safety classes, when confronted with the notion that preventing accidents is primarily the foreman's job, ask, "Then what do safety engineers do?" This chapter answers the question for the past, present, and future. It will have equal interest for old-timers who have lived through the changes and for the young men who are still looking speculatively to the choice of a job.

*Appendix.* As a "bonus" the book contains 10 pages outlining a complete recommended safety program and a five-lesson plan of a foreman training course. Managements just getting started in safety might profitably take this appendix as a guide.

The author, Russ DeReamer, has been a plant safety man practically since he started work, one of the few plant safety men who has persevered in the determination to "write a book." He is also a student who has read the earlier books and who gives credit to the authors. The present work may be read with profit by beginners and veterans.

GLENN GRIFFIN

## Small Boat Safety

*Piloting, Seamanship and Small Boat Handling.* Charles F. Chapman, M. E. Published by *Motorboating* Magazine, 572 Madison Ave., New York 22. 1959-60. 568 pp., index $4.

THIS BOOK is an encyclopedia: a complete, illustrated course on small boat work, including examination questions and answers. Enough material to fill ten volumes is packed into this one comprehensive tome. It is written by the editor of *MoToR BoatinG* magazine and includes contributions which must have come from countless specialists.

The chapters are grouped into "lessons": equipment and lights, rules of the road, motorboat handling, safety, the mariner's compass, aids to navigation, charts and piloting, and manners and customs on boats.

The first edition was published more than 30 years ago. Since then it has been necessary to print several editions in some years to supply the demand. From the beginning it has been a text book used by members of the United States Power Squadrons and has been used by various branches of the navy, coast guard and coast guard auxiliary, army, and in courses in seamanship and elementary navigation at many nautical schools and colleges.

A 24-page chapter entitled "River Piloting" is included for the boatmen now using our inland waterways. Available are résumés of such subjects as the art of docking, a review of the compass, notes on charts, fundamentals of position-finding, and basic facts on tides and currents.

Data on the Federal Boating Act of 1958 was added as this 1959-60 edition went to press.

RALPH KUHLI

## Electrical Safety

*Abstracts and References on Electrical Safety, Including Ignition of Gases, Vapors and Dusts.* Published by the Instrument Society of America, 313 Sixth Ave., Pittsburgh 22, Pa. 1959. 99 pp. $5.

THIS BOOKLET was prepared by the R.P.-12 Committee, "Wiring for Hazardous Locations," of the Instrument Society of America, Standards and Practices Department. The publication is a complete listing of all important ref-

—*To page 60*

# When Abrasion Protection is Vital, Specify PIONEER

## These flexible coated gloves provide long-wearing liquidtight protection for materials handling:

| Style No. | Glove Material | Type |
|---|---|---|
| **Hand and Wrist Protection** | | |
| **Light Weight** | | |
| 80 | Neoprene | C |
| **Industrial Weight** | | |
| 5062-J | Pylox | C |
| 5232-J | Pylox | C |
| 5052-W | Pylox | C |
| 5062-AV | Pylox | C |
| 5232-AV | Pylox | C |
| 90 | Neoprene | C |
| 100 | Neoprene | 10" |
| 50 | Pylox | C |
| 60 | Pylox | C |
| 50-AV | Pylox | C |
| 60-AV | Pylox | A |
| **Heavy Duty Weight (Non-Slip)** | | |
| 95 | Neoprene | C |
| 105 | Neoprene | 10" |

AV — "Aero-Vent Back" for greater ventilation.
J — Jumbo Size W — Women's Size

| Style No. | Glove Material | Type |
|---|---|---|
| **Hand, Wrist and Forearm Protection** | | |
| **Industrial Weight** | | |
| 5132-J | Pylox | B |
| 5252-J | Pylox | D |
| 120 | Neoprene | B |
| 313 | Pylox | B |
| 515 | Pylox | D |
| 140 | Neoprene | D |
| **Heavy Duty Weight (Non-Slip)** | | |
| 125 | Neoprene | B |
| 145 | Neoprene | D |
| **Hand, Wrist, Forearm to Elbow Protection** | | |
| **Industrial Weight** | | |
| 180 | Neoprene | 18" |

### Send For PIONEER's Revolutionary "Foolproof Glove Selector"

Helps you solve many hand protection problems — whether they involve chemicals, abrasion resistance, worker fatigue, extreme hot and cold temperature, or products that must be protected from hands! Eliminates costly errors in glove selection.

the PIONEER Rubber Company Willard, Ohio, U.S.A.

**The PIONEER Rubber Company** (A)
**237 Tiffin Road, Willard, Ohio**

Please send me:

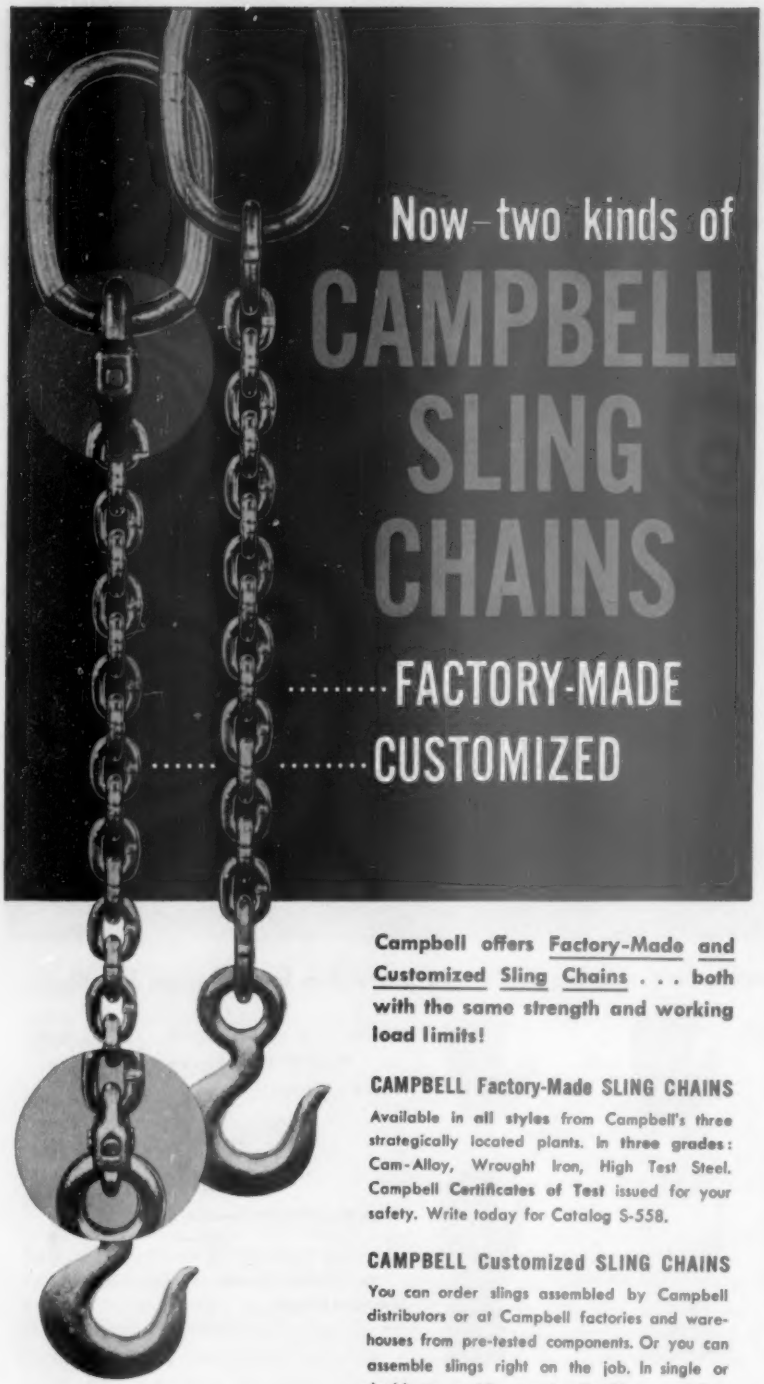
- ☐ New "Foolproof Glove Selector" by PIONEER.
- ☐ New Pioneer Industrial Glove Catalog
- ☐ 17" x 22" Full Line Glove Wall Chart

Firm _____

Address _____

City _____ Zone ___ State _____

Requested by _____




**Campbell offers Factory-Made and Customized Sling Chains . . . both with the same strength and working load limits!**

**CAMPBELL Factory-Made SLING CHAINS**

Available in all styles from Campbell's three strategically located plants. In three grades: Cam-Alloy, Wrought Iron, High Test Steel. Campbell Certificates of Test issued for your safety. Write today for Catalog S-558.

**CAMPBELL Customized SLING CHAINS**

You can order slings assembled by Campbell distributors or at Campbell factories and warehouses from pre-tested components. Or you can assemble slings right on the job. In single or double types, Alloy grade. Certificates of Test issued for complete assemblies or components. Write today for Catalog CSA-1.

CAMPBELL CHAIN

**CAMPBELL CHAIN** *Company*

FACTORIES: York, Pa.; West Burlington, Iowa; Alvarado, Calif.
WAREHOUSES: E. Cambridge, Mass.; Seattle, Wash.; Portland, Ore.; Atlanta, Ga.; Dallas, Texas; Chicago, Ill.; Los Angeles, Calif.

## Safety Library

*—From page 58*

erences on explosion hazards and electric ignition of gases, vapors, and dusts published from 1920 through recent years. Those interested in design of equipment that can operate in hazardous atmospheres will find this bibliography of great value.

References appear under alphabetically arranged subject headings, and under each subject the references are listed alphabetically by author. There is an author index, listing each author's contribution by bibliography number.

The subject index covers such subjects as apparatus, catalysis, combustion, detonation, dusts, energy, explosions, flames, gases, ignition, pressure. There are 251 full abstracts and 356 references in this compilation, and this volume would be a welcome addition to the library of any safety engineer, design engineer, or industrial hygiene engineer.

ED ALPAUGH

## Grinding Wheels

*The Grinding Wheel.* Revision. William F. Schleicher. Grinding Wheel Institute, 2130 Keith Bldg., Cleveland, Ohio. $4.95.

FROM ITS CONCEPTION by the Grinding Wheel Institute, *The Grinding Wheel* has been the most outstanding single volume of basic and practical facts about grinding wheels, grinding machines and grinding operations.

The tremendous expansion and advancement of the grinding and finishing industry has demanded a thorough revision in less than eight years. This revised edition has greatly increased the scope of the book as well as updated the original work

William F. Schleicher, vice-president and editorial director of Hitchcock Publishing Co., was selected by the Institute to author the revision.

The current revision, based on the 1951 edition, contains more than 100 pages of new material. These additional pages make a total of 532 pages in the revised edition. Entirely new chapters have been written.

These are: "Mounted Wheels," "Reinforced Wheels," "Automation and Advanced Mechanization," and "Safety." Jig grinding, electro-assist grinding, optical projection grind-

ing, filtering of grinding fluids and grinding of ceramics are some of the new subjects incorporated in standing chapters.

Every chapter has been affected by recent advancements in the science of grinding, resulting in editorial additions to such chapters concerning abrasive materials, disc grinding, roll grinding, costs, and evaluation of surface quality.

Developments in contributory fields have been examined, requiring the inclusion of such subjects as automatic sizing, automatic loading and unloading, and man-made diamonds.

The chapter titled "Fundamentals of Grinding" first explains the basic theory that grinding is a true metal cutting operation. But in contrast to other metal-cutting operations, the many variables provide a much greater flexibility. Additional fundamentals covered include the effect of hardness or grade by speed, the effects of the arc of contact and depth of cut.

The chapter on grinding fluids covers theory and reasons for using fluids. After establishing the basics, this chapter goes into the types of fluids and qualities desired in a grinding fluid. Specific needs of various types of operations are reviewed, and the chapter concludes with a chart on the recommended methods of cleaning coolants from various operations.

Information on evaluation of surface quality starts with a brief history of specification and measurement. This chapter then covers equipment, approximate classification of machined surfaces, symbols, markings, geometric specimens and taper sectioning.

The chapter on truing, dressing and balancing begins with the reasons for dressing, followed by a complete summary of equipment used in dressing, truing and balancing operations. Included in this material are descriptions of how to perform the operations, charts on diamond selection and wheel balancing.

The chapter covering tool and cutter sharpening is how-to-do-it information of benefit to operator and supervisor. A chart on the relationship of point angle, lip relief, and chisel edge angle to types of material would be of value to any tool room.

Factors affecting wheel selection


Reduce Safety Goggle Inventory with Fendall Spectacles

EQUIPPED WITH EXCLUSIVE, PATENTED

MULTI-FIT BRIDGE

SELF-ADAPTING... FITS 9 OUT OF 10 *automatically*. Wide...narrow...shallow ...high nose bridges present no fitting problem whatever when you use Fendall goggles equipped with the amazing MULTI-FIT Bridge. No need to carry a large inventory of various bridge sizes. Now you can properly fit practically *every* worker with only *one* bridge... Fendall's patented MULTI-FIT Bridge. Think of it... safety spectacles that fit automatically. No time-wasting try-ons searching for the correct bridge size. Even more... the MULTI-FIT provides solid comfort to insure constant, willing use by all. Equip your workers with Fendall safety goggles now. Write for details.

FENDALL PRODUCTS FEND ALL HAZARDS

FENDALL COMPANY

4509 N. LINCOLN AVENUE, CHICAGO 25, ILLINOIS

will be enlightening. With the tremendous number of possible combinations, there is a real need for a starting place and direction to turn in the selection of wheels. This chapter covers the factors to be considered when making the first selection, and the effects of such variables as abrasive, modifications, grain size, bond, grade and grain spacing on the function of the wheel.

"Design for Grinding" is a chapter which outlines in detail that grinding can remove stock, grind dimensionally accurate parts, produce a finish and generate a form. Illustration points out that through planning, parts can be designed so they can be ground readily and easily.

"Grinding Wheel Safety" is one of the new chapters in this revision. Safety material was covered in the appendix of the previous book. Up-to-date tables are shown on maximum operating speeds and minimum machine spindle sizes.

There are two outstanding sections in the appendix. The first is a series of common grinding errors with each indication followed by the cause and correction needed. This is an excellent reference chart.

The second section consists of 15 pages of grinding wheel recommendations. These are the starting point for wheel selection. The chart is arranged by work-material-operations followed by the abrasive, grain size, grade, and bond recommended.

*The Grinding Wheel* is a textbook not only for the student but for the practitioner, whether he be operator or executive.

ARTHUR S. KELLY

## Radiation Simplified

*Living with Radiation.* By Francis L. Brannigan. Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. 1959. 65 pp. 45 cents.

THE SUBTITLE, *Problems of the Nuclear Age for the Layman,* describes the book's scope as well as it can be described. It is hard to improve on *any* of this author's writing. He has the extremely rare faculty of making radiation understandable to people with limited scientific training.

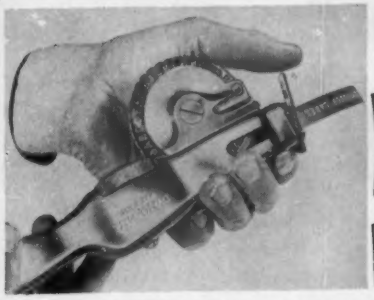
*Living with Radiation* gives the reader only what he needs to know —it does not go into the detail necessary for the scientist.

The author, who is a nuclear safety specialist in the Safety and Fire Protection Branch of the AEC, found in his experience with metropolitan fire fighters that firemen were unreasonably afraid of fires around radioactive material. He studied radiation and its hazards, and found that knowledge of what they were dealing with dispelled the almost superstitious fears of the firemen. He has since been teaching fire and police instructors and others who need a working knowledge of nuclear hazards.

The book, file-sized and 3-hole punched for those who prefer to keep it in a binder, consists of eleven chapters: an introduction, which begins the job of clearing away misconceptions; Benefits, which fills in the credit side of the ledger with brief descriptions of the uses of radiation in farming, refining, metalworking, medicine, and other vital activities; Hazards, which compares radiation hazards to other prevalent hazards in daily living—hazards we prefer to live with because they accompany conveniences; External Radiation, including genetic effects and misbeliefs about sterility and impotence; Protection from External Radiation, the well-known "time, distance, and shielding"; Internal Radiation, a much more complicated problem than external radiation; Protection from Internal Radiation, which largely amounts to *prevention,* since little can be done when a vital organ accepts radioactive material; Contamination, again largely a problem of preplanning; Instruments and Personnel Dosimetry, a most reassuring piece of reading, since it shows the reader how to find out exactly what he is dealing with; Radiation Physics, detailing the nature of the tiny particles that do the work—or the damage; and Atomic Fission, which makes clear that fission and radioactivity are *not* one and the same.

JAMES D. SAUL


EMBOSSED LABELS MADE ON-THE-SPOT



WITH THE NEW DYMO-MITE HAND EMBOSSING MACHINE-34.95

A NEW CONCEPT IN IDENTIFICATION SYSTEMS

**For plant, office, field and factory . . .** you can now make your own labels right "on-the-spot" just where and when you need them. The DYMO-MITE embosses raised white letters on a variety of colored, pressure-sensitive vinyl tapes . . . as easily as dialing a telephone . . . and best of all they cost just pennies a label. Use on tools, parts bins, switch boxes, shelves, controls, lockers, anywhere, everywhere, indoors or out . . . applications limited only to the scope of YOUR own imagination!

See your local distributor or—

Write today for FREE catalog and samples to:

DYMO CORPORATION DEPT.

2546 Tenth Street, Berkeley 10, Calif.


### BOOKS AND PAMPHLETS

**Fire Protection**

*National Fire Codes.* 1959. National Fire Protection Association, 60 Batterymarch, Boston, 10. Six volumes $35. Single volume $7.

# Famous last words...

**We have all the STONEHOUSE SAFETY SIGNS we need...**

**...but ONE!**

**Accidents are no laughing matter—stop them before they happen**

DANGER
LIVE WIRE

*Stonehouse* SIGNS
*"Signs Since 1863"*

Play it safe in your plant with accident-prevention signs. All Stonehouse Signs are made of enduring, tested materials and designed in accordance with American Standard Specifications. MAIL COUPON TODAY FOR FREE, FULL-COLOR, 64-PAGE CATALOG.

**Stonehouse Signs, Inc.**
Department 11
9th & Larimer Streets • Denver 4, Colorado

*Send me your free 64-page catalog of Safety Signs and Tags.*

Name _____

Title _____

Company _____

Address _____

City _____

State _____

Vol. I, Flammable Liquids and Gases.
Vol. II, Combustible Solids, Dusts, Chemicals and Explosives.
Vol. III, Building Construction and Equipment.
Vol. IV, Extinguishing Equipment.
Vol. V, Electrical.
Vol. VI, Transportation and Miscellaneous.

*Operation School Burning*. 1959. 272 pp. National Fire Protection Association, 60 Batterymarch Street, Boston 10. $4.75. (Official report of the Los Angeles Fire Department on the fire test conducted by that department at the Robert Louis Stevenson Junior High School, April 16, 1959, to June 30, 1959).

### Radiation

*General Handbook for Radiation Monitoring*. U. S. Atomic Energy Commission. Third edition. 1959. 180 pp. Superintendent of Documents, Washington 25, D. C. (LA-1835) 60c.

## MAGAZINE ARTICLES

### Accidents

"Credit Difficulties and Accidents." D. L. Young. *Personnel Journal*. October 1959. pp. 168-169.

### Chemicals

"Poisons." Elyah Adams. *Scientific American*. November 1959. pp. 76-84. (Investigations of their lethal mechanisms help to elucidate cellular chemistry).

"Toxicology of the Microbial Insecticide, Thuricide." Robert Fisher and Lawrence Rosner. *Journal of Agricultural and Food Chemistry*. October 1959. pp. 686-688.

### Color

"There's Safety in Color." H. I. Mann. *Supervision*. November 1959. pp. 22-23. (How a company manufacturing highly flammable products uses color to safeguard its plant and personnel).

### Dog Bites

"Epidemeology of Dog Bites." Henry M. Parrish and others. *Public Health Reports*. October 1959. pp. 891-903.

### Electrical Industry

"Worker Training in a Rural Area." *American Machinist*. Nov. 2, 1959. pp. 118-122.

### Electricity

"Power Supplies—for Industrial Plants." H. L. McGee. *The Plant*. October 1959. pp. 39-41.

### Fire Protection

"Chemical Aspects of Fire Extinguishment." A. B. Guise. *Industrial and Engineering Chemistry*. November 1959. pp. 73A-75A.

"Fire Safety in Nursing Homes." Adrian J. Meyers and Ila I. Arthur. *Nursing Homes*. October 1959. pp. 5-6.

"Fire Safety Program." L. C. Wimmer. *The Plant*. October 1959. pp. 43-44. (Chas. Pfizer & Co. carries on a continuous program).

### Head Protection

"Don't Be Hard-Headed; Be Hard Hatted!" *Electric Light and Power*. Oct. 15, 1959. pp. 85-86.

### Health

"Health Education in Industry—Practical Considerations for Actual Programs in Industry." S. S. Lifson. *American Journal of Public Health*. October 1959. pp. 1357-1363.

"Physicians Should Help Guard Against Abuse of Insurance." *The National Provisioner*. Oct. 31, 1959, p. 16.

"What a Medical Program Can Do for You." D. H. Robinson. *American Machinist*. Nov. 2, 1959. pp. 112-113.

—*To page 95*

*or is it?*

Find Your Nearest DETEX Inspector In The Yellow Pages

Quiet night? So far—but all hades can break loose any minute. Whether it's a smouldering fire, an open sprinkler head, a malfunctioning machine or a sortie by neighborhood hoodlums, this watchman is ready for anything. No mechanical device can cope with so many different hazards.

But unsupervised, he may nap or skip rounds. That's why many plants require that each watchman carries a tape recording DETEX Guardsman Watchclock. Through lonely nights, long weekends, and extended plant closings, the Guardsman gives you a tamper-proof, minute-by-minute record of his activities. Knowing this, he isn't very likely to sleep, shirk or skip rounds.

The Guardsman quickly pays for itself by saving on overtime. It's unnecessary for a supervisor to return on Saturday and Sunday just to change a 24-hour dial. Write today for complete information.

**The Guardsman**—and all DETEX dial-type clocks—are approved by Factory Mutual and Underwriters Laboratories. Their use often reduces insurance premiums.

DETEX
WATCHCLOCK CORPORATION
Dept. N-1, 76 Varick Street, New York 13, New York

# HI-VIZ® fluorescent SAFETY PAINT

Now you can "safety mark" indoor and outdoor hazards with HI-VIZ Safety Paint that demands immediate attention and extra caution.

These high visibility colors *are up to 4 times brighter* than regular safety colors, including international orange. Government tested and used on military and civilian aircraft to help prevent mid-air collisions, HI-VIZ Colors are now widely accepted for industrial safety applications.

Available in eight fluorescent *attention* colors, HI-VIZ is easy to brush, spray or roll on. Also packaged for small applications in Jet Spray aerosol cans.

Distributor inquiries invited

**WRITE TODAY!**
For free application bulletin, color swatches and detailed brochure illustrated in HI-VIZ Color.

*Over twenty years experience in the manufacture of quality fluorescent products*

## LAWTER CHEMICALS, INC.

Dept. FM • 3550 Touhy Avenue • Chicago 45, Illinois • CHICAGO • South Kearny, N.J. • San Leandro, Calif.

# AROUND THE COMPASS

**ACTIVITIES**

**• PROGRAMS**

**• EVENTS**

By THOMAS J. NOLAN

Field Service Department, NSC

Tom Nolan has joined the NSC Field Service Department as program consultant. Of Park Ridge, Ill., Nolan worked with Sterling Drug Inc. for 13 years and was the assistant branch manager of their midwest operations. He is a graduate of Chicago's Loyola University, having received a B.S. degree in commerce. Among other duties, Tom will edit "Around the Compass."

### Red "I" Program

President Howard G. Cumler of the Lakewood, Ohio, Safety Council has reported that the red "I" program has been well received in that community. The red "I" is a small piece of red tape attached to the residence of an invalid.

One piece goes on the front door, and another is placed on the window of the room in which the invalid is located. The tape on the door tells firefighters that an invalid in need of assistance lives in the building. The "I" on the window gives the room location of the invalid.

### Maine Enacts Driver Education Law

Maine has become the third state to enact legislation requiring teenagers to have successfully completed a state-approved driver education course as a prerequisite to obtaining a driver's license at the minimum driving age.

The law, which goes into effect Sept. 1, 1960, states that no operator's permit shall be issued to anyone under the age of 17 unless they are able to present a certificate of successful completion of a state-approved driver education course and examination. The other two states having this regulation are Michigan and Connecticut.

### B. R. Caldwell Directs Traffic Institute

Bernard R. Caldwell has been appointed director of the Traffic Institute Division of the Transportation Center at Northwestern University, Evanston, Ill.

One of the nation's foremost police administrators, Caldwell had been commissioner of the California Highway Patrol until his retirement the past March.

In announcing the appointment, Dr. J. Roscoe Miller, president of Northwestern, said: "During his long career in the field of traffic law enforcement, Mr. Caldwell has made outstanding contributions to motor vehicle traffic safety. His experience and ability make him eminently qualified to guide the Traffic Institute's program."

### Traffic Safety Clinic in Wisconsin

The Wisconsin Council of Safety has announced the availability of a Traffic Safety Clinic—a package safety program prepared as a service to members of local safety councils and members of the Wisconsin Council of Safety.

Purpose of this program is to inform local safety councils, top management, local officials, civic leaders and club safety chairmen of the benefits to business, industry and community through a strong local traffic safety program. The first clinic of this kind was held November 10 in Appleton with great success.

### W. D. Ladd Writes Book on Safety

Walter D. Ladd, manager of the St. Joseph, Mo., Safety Council and a nationally recognized leader in this field, has written the book, "Organizing for Traffic Safety in Your Community," now off the press.

This publication deals with traffic accidents and stresses need for organized action by officials and private citizens at the community level. The book is designed to help officials, citizen leaders, and educators in developing effective safety programs.

This 200-page publication is available from Charles C. Thomas, publisher, Springfield, Ill. $7.75.

### Lofgren to Direct IIHS Program Planning

Nils Lofgren, editor of "Around the Compass" for the past two years, has resigned from the National Safety Council and is now the director of program planning for the Insurance Institute for Highway Safety, Washington, D. C.

### Western Pennsylvania Council President Dies

Carl B. Pollock, former president of the Western Pennsylvania Safety Council and a vice-president of the Allegheny Ludlum Steel Corporation, Pittsburgh, died suddenly Oct. 31, 1959.

## Effort Saves Eyes

—*From page 27*

for the entire plant was plotted monthly, indicating the number of workers and eye cases occurring.

Sample data of two 18-month periods, representative of data taken during a five-year period, served for comparison of proximal relationship in employment level. The type of manufacturing activity occurring during this period is characteristic of that taking place in aircraft and missile manufacturing.

In 1954 the frequency rate began a gradual decline which continued for the next two years. During this time employment slowly climbed, reaching a peak in 1957.

Analysis of the five-year period indicated that the frequency rate usually increased during spring and summer months, apparently due to a jump in warm weather fatigue and discomforts. Increased body moisture and fogging of eye protection equipment caused employees to work without such devices. Also, workers readjusted the equipment to make it fit more freely, reducing its effectiveness.

Serious eye injuries occurred most often during periods of sustained high frequency and accelerated upward trends. Most of these accidents took place from May through September as a result of the worker's failure to wear eye protection provided. Few cases occurred during suppressed or declining frequency rates.

Convair's San Diego Division now has its lowest eye-case frequency for a comparable level of employment, reflecting efforts to sell the advantages of wearing eye protection to all levels of the organization. This, by the way, is essential whether the program is new or established.

One major accomplishment has been to reduce by 50 per cent the number of workers referred to eye specialists for treatment, or examination and report. In 1958, when the division's employment averaged 21,163 employees per month, only 21 workers required treatment by specialists.

The formula for this successful eye protection effort, simplified is: Increased effort equals increased results.


Whatever the job . . .
There's a HOOD GLOVE
that fits it best

Where chemical resistance and flexibility are important, you want this glove:
NEW HOOD FLEXIPRENE*
the most flexible neoprene work glove ever made

For protection from solvents and light oils . . . nothing equals:
NEW HOOD Koroseal* WORK GLOVES
made with exclusive PVC Compound

NO. 7703 Note Exclusive Thumb Crotch Construction

NO. 4703 The Standard of the Industry

NO. R56 The Famous Gripall Glove

Hood makes 29 different kinds of work gloves. Every one of these gloves is designed to meet the special requirements of a particular type of work.

To be sure you get the *correct* glove for any job, send for your free copy of Hood's Work Glove Performance Chart. WRITE TO: Hood Industrial Footwear and Gloves, Dept. NSN, Watertown 72, Massachusetts.

*TRADE MARK

**Hood** ***industrial gloves***

Circle Item No. 26—Reader Service Card

# WHAT'S NEW
IN
NATIONAL SAFETY COUNCIL SERVICES

*Look to this page each month for latest news about NSC services. Use the Reader Service Card (opposite back cover) to obtain sample copies of those publications showing a Reader Service Card number. For additional information on publications shown, write to Membership Service Division, National Safety Council, 425 N. Michigan Ave., Chicago 11.

## Three Booklets Now Ready

The safety of a worker's fingers—industry's best production tools—is the subject of *A Simple Do-It-Yourself Project,* which deals in an ironic manner with a grim subject—the loss of fingers.

"Cartoons, humor, brief copy, and bright color—these are the ingredients in the booklet designed to make workers read, understand, and remember the do's and don'ts for keeping their fingers out of harm's way, at work and at home." (Stock No. 194.22)

To obtain a single copy, circle No. 520, Reader Service Postcard.

"Who gets hurt in industrial accidents?" is a question asked—and answered—by *Who Gets Hurt?* which uses a humorous approach, multicolored cartoons and concise text to discuss on-the-job injuries. It says the man who gets hurt is the man who thinks he's invulnerable. The answer to "Who gets hurt?" is "You get hurt!"

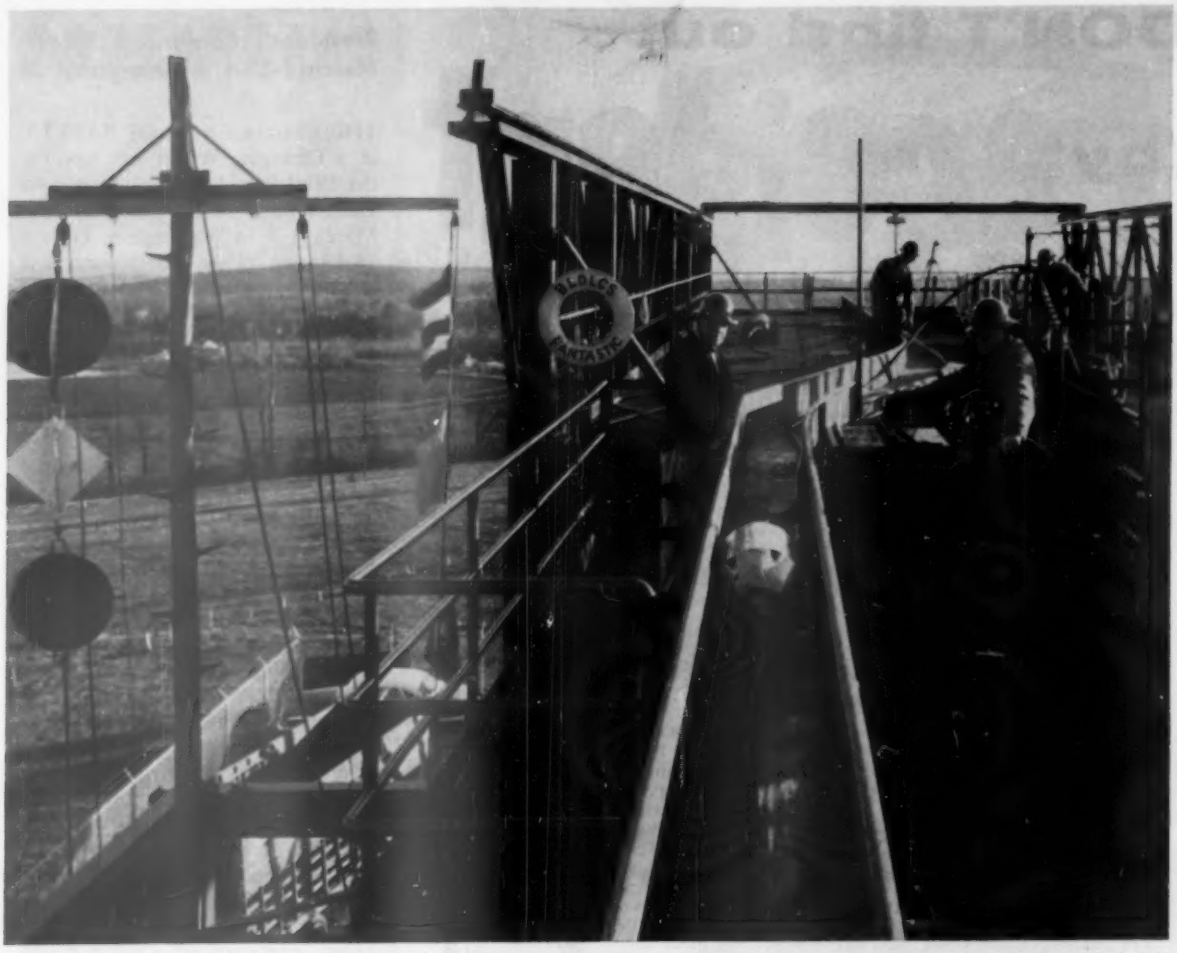
The 16-page booklet explains the type of worker most likely to be injured, how workers and their families are hurt in accidents, where accidents happen, what injuries cost the worker and his family, and what you can do about accidents. (Stock No. 192.96)

A single copy of *Who Gets Hurt?* may be obtained free. Circle No. 519, Reader Service Postcard.

"A driver's strongest defense against winter's deadly, nasty tricks is know-how," according to *How to Winter-Wise Your Driving,* a 16-page publication covering winter driving techniques ranging from how to avoid skids on icy roads to the things to do to ready your car for subzero temperatures.

The booklet contains practical, dependable information obtained from tests of vehicles, tires, and driving methods by NSC's Committee on Winter Driving Hazards. (Stock No. 399.69)

For a single sample copy, circle No. 518, Reader Service Postcard.




Engineers study section of cable containing dummy amplifier being payed out. Life preserver inscription stands for "Bell Laboratories Dry Land Cable Ship Fantastic"

# ★ Come aboard the FANTASTIC! ★

*A ship that never sails helps Bell System engineers devise the best way to lay undersea telephone cables*

The telephone cables which now connect America with Europe, Hawaii and other distant places have proved enormously successful.

Soon more will be needed – to link other continents, and to handle the ever-rising volume of overseas calls. But the new and lighter cables now being tested call for entirely new cable-laying techniques and equipment.

To save time and money, and permit studies of the problem under controlled conditions, a mock-up of a cable-laying ship—dubbed the *Fantastic*—has been built on a New Jersey hilltop some twenty-eight miles from the nearest salt water. There, most days, you will find Bell Laboratories engineers busily testing the new methods and equipment they have devised.

Winches whine as long sections of cable are pulled up from the "hold" and payed out "overboard" as if the *Fantastic* were truly at sea. Flying gaily from a yardarm are maritime signals warning other vessels to stay clear.

Elsewhere in the Laboratories, experiments show how to grip the cable and control its speed, what happens as it sinks into the sea, how fast it should be payed out to fit the ocean bottom snugly. Still other studies plot the hills and valleys of the ocean floor where the cable will eventually be laid.

The result—telephone service across the ocean as good as your own local service. It is progress like this which is the purpose of our constant research and experimentation in all fields of communications.

**BELL TELEPHONE SYSTEM**

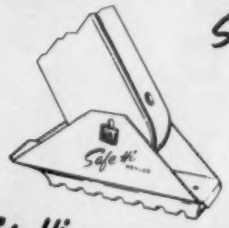
# DON'T find out by accident

***In safety equipment, second best just won't do!***

Get the *facts* on the safety equipment you need. For 29 years, the Rose Manufacturing Company has been designing, testing, and manufacturing the finest safety equipment in its field.

**Safe-Hi UNOLYN COIL SHOCK ABSORBER AND LANYARD**

The Safe-Hi Unolyn Shock Absorber and Lanyard are safe two ways! A 50-inch length of Nylon Lanyard is coiled around a 10-inch length of Unolyn. After the Unolyn has stopped the fall and absorbed the shock, the Nylon lanyard retains full strength and safety. Unolyn s-t-r-e-t-c-h-e-s to 5 times its own length—one pound of Unolyn absorbs up to 25,000 foot-pounds of kinetic energy—to guard against broken ropes, anchors, belts and broken men due to impact in stopping falls!

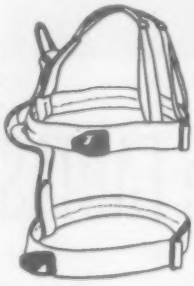


**Safe-Hi LADDER SHOES**

Safe-Hi Ladder Shoes hold on all surfaces because they combine fibre and neoprene in the tread. This combination holds any ladder safely on wet, dry or slippery surface. The self-sharpening steel spike flips down for ice or snow.

Listed by Underwriters Laboratories for all surfaces. Also available in spark-resistant metals.

**Safe-Hi CHEST-WAIST BELT**



The Safe-Hi "Chest-Waist" belt is the *safest* belt made for workmen in high places, because it *divides* the shock load to two separate areas of the body—the chest and the waist. It also assures proper adjustment; the shoulder-supported chest belt can be worn loose for comfort, but the un-supported waist belt must be *worn* snug, thus preventing the fatal "slip-out" accident in a fall.

Other Safe-Hi Safety Belts include Car Dropper's Belt, Grab Belt, Heavy-Duty Construction Worker's Belt and Window Cleaner Belt.

**Safe-Hi AUTO SEAT BELT**

The "all nylon" Safe-Hi Auto Seat Belt has been safety-engineered to reduce crippling injuries and deaths resulting from highway accidents. The entire belt assembly, including the floor hardware, test far beyond C.A.A. rated strength for airplane seat belts! The 2-inch-wide webbing is 100% nylon, shock-absorbing, very long wearing and easily kept clean. It is light and comfortable to wear, and can be instantly adjusted or released. The Safe-Hi Auto Seat Belt will fit any person, any seat and any car or truck.

**OTHER SAFE-HI PRODUCTS**

Other Safe-Hi Products include the Safe-Hi Ladder Climber, Chisel Grip, Rope Grab Shock Absorber, Ladder Lash Pole Grip, Wall Grip and Adjustable Bo'suns Swing.

***You're sure you've got the best with*** Safe-Hi

**rose manufacturing co.**

2700 W. BARBERRY PLACE • DENVER, COLORADO


## President's Conference Meets March 1-3 in Washington

THE CHALLENGE OF SAFETY in a Changing World will keynote the 1960 President's Conference on Occupational Safety, scheduled for March 1-3 in Washington, D.C.

Pointing to the Conference as a dynamic step toward promotion of effective job safety, Secretary of Labor James P. Mitchell, chairman of the Conference, said:

"Experience of industrial firms with full-scale safety programs indicates that we might eventually cut the total of 1,810,000 casualties [from 1958] to about 300,000, reduce the yearly fatalities from 13,-300 to around 2,100 and lower the toll of permanent injuries from 75,-700 to about 10,000."

The three-day meeting will start with opening remarks by President Dwight D. Eisenhower and an address by Secretary Mitchell. In an afternoon plenary session Ewan Clague, commissioner of the Bureau of Labor Statistics, will speak on "The Changing Nature of Our Work Force."

Other speakers, to be announced, will comment on "The Changing Nature of Work" and "The Unchanging Nature of Men." Reed O. Hunt, president of Crown Zellerbach Corporation and executive director of the Conference, will preside.

An evening plenary session will probe "The Challenge to Schools for Safety in a Changing World." Lawrence G. Derthick, U. S. commissioner of education, is to preside, with John P. Walsh of the U. S. Office of Education as moderator.

Arthur W. Motley, director of the Department of Labor's Bureau of Labor Standards, is supervising program coordination and conference arrangements. A. C. Blackman, general manager of the American Society of Safety Engineers and chairman of the Conference program committee, is handling programming and planning in cooperation with a technical advisory committee.

Historically, 12 years ago the first President's Conference reported on safety requirements of the country. Later meetings suggested new fields of attention and reviewed remaining safety problems.

# NEW!

GET RARE
COMFORT AND FIT
**PLUS** ADDED
PROTECTION,
IMPROVED VISION . . .

*S-42 Chippers Goggle with flat or 6.00D Bal-SAFE lenses, clear or in Ray-Ban shades 1, 2 or 3.*

*W-35 Chippers Eyeshield with two Enduron 2"x4¼" plates; gives increased protection and provides air space which further reduces fogging.*

Insure workers a greater degree of safety than ever before; give them more comfort, better vision. Insure more worker cooperation, too, because these goggles and eyeshields are so good looking in their new opaque flesh color and bright nickel louvers, vents and head bars!

# RUGGED SOFTIES!

Soft and flexible, they fit snugly, comfortably. Eyeshield plates are replaced in seconds through side opening. Goggle head bars are adjustable—as are two-tone elastic headbands. For more details, prices, write today: Bausch & Lomb Optical Co., 90349 Lomb Park, Rochester 2, N. Y.

*S-41 Welders Goggle with Arc-Ban lenses in shades No. 3 through No. 6, with tough Enduron plastic cover lenses.*

Bausch & Lomb
chippers and welders
**FLEXIBLE GOGGLES**
**and EYESHIELDS**

*W-36 Welders Eyeshields with 2"x4¼" Arc-Ban welding plate, shades No. 3 through No. 6, with Enduron cover plate.*

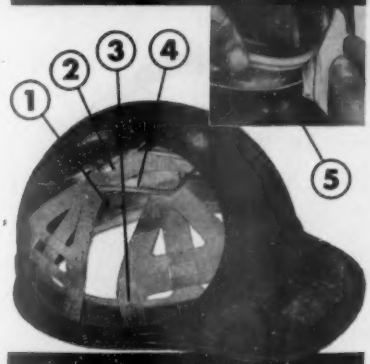
BAUSCH & LOMB
SINCE 1853

**Protection PLUS Safety Products**

EXCLUSIVE NEW SUSPENSION DESIGN

apex

Safety Hats & Caps




SECURITY • COMFORT
CONVENIENCE
HYGIENE

1. polyethylene "lock straps" assure minimum 1¼" crown clearance.
2. numbered positions for easy snap-in size adjustment.
3. suspension removed or replaced with snap-in "t-slots".
4. lace for comfortable crown adjustment.
5. plastic-zippered sweatband removes swiftly with pullout motion, easily and rapidly replaced.

FIBRE-GLASS, ALUMINUM OR ELECTRICAL SHELL

*Apex* fibre-glass hats and caps are manufactured with a new resin-glass formula providing the greatest structural strength ever achieved in safety hats . . . the *Apex* aluminum line is the equal to fibre-glass in light weight and comfort, and adds the advantage of heat reflection . . . electrical line is molded of highly resilient linear polyethylene.

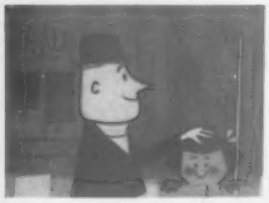
All three lines are free of maintenance and corrosion, and all three exceed standards for hard hat safety.

Write now for Bulletin 0-10

Safety Dept.
BOYER-CAMPBELL
COMPANY
division of White Sewing Machine Corporation
6540 ST. ANTOINE STREET
DETROIT 2, MICHIGAN

# New Animated Movie Tells Entertaining Story About Traffic Signs and Signals

*Signs Take A Holiday*, a new National Safety Council traffic safety film, done in animation and telling the story of the importance of traffic signs, signals, and markings in today's complex motorized society, had its premiere at the National Safety Congress.



Horace is a gentle soul. He likes children, he's polite . . .

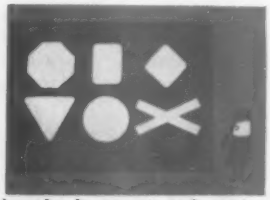
Produced with the help of the Railroad Highway Traffic Safety Committee of the Railroad Section, the 16 mm movie is a natural for all industrial off-the-job safety programs, and appeals to both school-age and adult audiences. It runs 12 minutes and is expected to have wide television use. Five hundred copies of a companion leaflet, "Signs You Must Know," using 33 illustrations from the movie and designed as an audience handout piece, are given free with the purchase of each film.

But he gets a ticket. He gets mad—wants signs to disappear.

But he learns signs are needed. Pioneers blazed signs on trees.

Horace Heimerhoff, the usually happy protagonist, loses his temper when he gets a parking ticket and wishes all signs and signals would be abolished. His angry wish is strangely granted, much to his surprise, and with immediate and horrible results. Cars crash, and all kinds of animated chaos follows. Horace, shaken and bruised, finally recognizes that traffic signs are very useful things to have around.

The job of teaching Horace and the viewer to recognize the six basic traffic signs by their shapes alone is skillfully handled. The leaflet makes an excellent take-home "recall piece" and may be used independently of film showings.



Now, he learns, signs have been standardized to six basic shapes.

He gets his traffic signs back, is able to cross streets again.

The materials were developed for the Signs of Life program. The Council is selling prints of the movie and leaflet below cost to encourage wide use by railroads, state and local safety councils, industry, and official traffic agencies.

Price of single-print copies of the 16 mm black and white sound film is $60 each; 2 to 9 copies, $55 each; and 10 or more, $48 each. Stock No. 379.42.

# ZORB-ALL makes icy surfaces safe—for men and vehicles

**WON'T BREAK DOWN!** The angular particles and high structural strength of Wyandotte ZORB-ALL give you *maximum* skid resistance for a *longer* period of time on icy walks, steps, ramps, parking areas, and driveways. Inert, non-chemical ZORB-ALL won't harm concrete, asphalt, wood or grass, either. Order it from your supplier—or write us direct.

**Wyandotte CHEMICALS**
J. B. FORD DIVISION

*Wyandotte Chemicals Corporation, Wyandotte, Mich. Also Los Nietos, Calif., and Atlanta, Ga. Offices in principal cities.*

Bashlin's
30 Years of Quality...
INDUSTRIAL BELTS
"The Parachutes of Industry"

Belt of Bashlin's Quality Cotton or Nylon Webbing. Lanyard ½ inch manila rope . . . safety equipment as necessary in industry as parachutes in the air.

The complete line of Bashlin Quality Safety Equipment for Industry includes the correct belt or harness for the job . . . Also a complete line of linemen's safety equipment.

You Can't Afford Anything LESS Than the BEST—
Buy BASHLIN
Highest Quality For Over 30 Years
*Distributors in Strategic Areas in U.S.A.*

EXPORT: Copperweld Steel International Co.
IN CANADA: A. B. Chance Co. of Canada, Ltd., Toronto

*Ask for . . .*
CATALOG NO. 54-S

W. M. BASHLIN CO.
GROVE CITY, PA.

# "Walk Wisely" Theme Of Safety Council Tournament of Roses Float

Singer Dennis Day, chairman of the Motion Picture Division of the National Safety Council (left), and Tournament of Roses President Raymond Dorn look at a drawing of the National Safety Council's float that appeared in the New Year's Day event.

A gigantic clown, largest single figure ever to appear in the history of the Pasadena Tournament of Roses parade, was on the float sponsored as a public service by Farmers Insurance Group American Legion Post 707 for the National Safety Council in the New Year's Day event.

"Don't Be a Clown, Walk Wisely" was the theme. It was in keeping with the Tournament theme, "Tall Tales and True." It was graphically portrayed by the disgruntled clown as he shook his head and blinked his eyes in wonder from a reclining position after slipping on a banana peel.

The words, "Don't Be a Clown" were carried in the foreground on the float bed with "Walk Wisely" on the soles of the figure's shoes. The words "National Safety Council" appeared on the three balloons he carried and the Farmers Insurance Group American Legion Post 707 name appeared on the huge drum that landed behind him as he fell.

Pink and white chrysanthemums covered the clown with cornflowers and stock used for the eyes and features. Gold pompom chrysanthemums covered the banana peel. The bed of the float included 4,000 giant catalaya and 12,000 vanda orchids on a bed of maidenhair fern and deflexis.

The float was 55 ft. long, 20 ft. wide, and 17 ft. high.


Circle Item No. 29—Reader Service Card
Circle Item No. 30—Reader Service Card →

# All in a day's work for Bethlehem slings

This husky cylinder, weighing about 57 tons, is 12 ft long, and has a maximum diameter of 6 ft. The Bethlehem wire rope slings which grasp the cylinder—actually there are two types of single-part slings—are so tough and strong that they handle this assignment with ease.

Bethlehem slings are ideal for virtually any lifting job, anywhere. They have great strength and flexibility, good load-hugging characteristics. And we make a wide variety of styles and sizes. If you have something special in mind, tell us about it. Our engineers will work closely with you in designing slings for unusual applications.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

*Export Distributor:* Bethlehem Steel Export Corporation

*Mill depots and distributors from coast to coast stock Bethlehem wire rope*

**BETHLEHEM STEEL**

BETHLEHEM STEEL

## Battling the Bugs

—*From page 35*

animal. Second, the product should not be contaminated by poisonous materials.

As an example, if you suspect rodents at the top of grain storage bins, you should not try to use poisonous materials. You should tie or fasten down traps, so the bodies of poisoned rodents will not fall into the grain.

**Insect control.** It is important that materials in process be protected from dead and dying insects. Open equipment should be covered. I have observed some situations where this was not considered. If you are trying to keep filth out of your products and are destroying animals for this purpose, keep the poisoned corpses out of the product and processing equipment.

Grain or any similar material fumigated should receive a cleaning following fumigation. Remove any dead animals. For the same reason equipment such as screw conveyors and empty bins should be vacuum-cleaned after fumigation.

This is contrary to the recommendations of some sanitarians. Some suggest cleaning before fumigation. If you could do a perfect cleaning job, you wouldn't need fumigation. Otherwise, if your equipment is not cleanable and has cracks and crevices, the grain dust or flour helps keep the equipment sealed during the fumigation. Most companies in this field have new equipment, so this is no problem.

Keep poisoned carcasses of rodents and insects out of products and equipment. These bodies are filth and are one possible route of passing toxic substances to the public.

Another possible route is direct contamination of products with pesticides. All containers used for transporting pesticides and for storage of them should be clearly identified, so they are not mistaken for ingredients. In our plant all such containers are stenciled *poisonous* and are painted bright yellow.

I'm disturbed when I visit a plant and see little scattered piles of material which turn out to be rodenticides. These should be placed in well-secured, plainly identified bait boxes, if they're to be kept from accidentally finding their way into the product.

Grain protectants and fumigants are the only materials that can be directly applied to food raw materials and products. Consequently, it is unnecessary and wrong to spray insecticides on food products or raw material.

One recent innovation in the field of fumigation indicates that this operation may become much safer. This involves bulk handling of fumigants.

One bulk tank truck now in service carries 32,000 lbs. of fumigants for delivery to bulk stations. Fumigation operators can fill tanks mounted on trailers from these bulk stations and bring them to the job site. At the job site fumigants can be piped through polyethylene tubing and metered directly to the point of application. The operator never has to enter the fumigation area. Aeration fans may be remotely started, or situated outside the grain storage or building area.


WANT TO GET MORE MEN INTO SAFETY SHOES?

Iron Age
IRON AGE SAFETY SHOE
Style #681
Extra lightweight, soft brown horsehide upper, Vul-Cork Micro-cell Cushion Neoprene sole.

Tell them about Vul-Cork Soles

There are three kinds: Vul-Cork, oil-resisting Vul-Cork Neoprene, and oil-resisting Vul-Cork Micro-Cell Cushion Neoprene. One or the other covers every work shoe situation. Vul-Cork comfort, Vul-Cork wear are in every pair! They're slip-resistant for the life of the sole, never mark floors, and never let in the weather. Vul-Cork soles stay neat-looking too — no curling or fraying. You'll be amazed how many men you can get onto safe footing by recommending safety shoes with Vul-Cork soles, the original cork and rubber sole.

Vul-Cork Sole Division, Cambridge Rubber Co., Taneytown, Md.
Makers of Vul-Cork®

VUL-CORK & VUL-CORK NEOPRENE
So light, so flexible, so resilient . . . you can roll them up right in the palm of your hand

Trainees using Rockwood Double Strength FOAM liquid learn one of the most effective fire-fighting techniques ever developed. Training cost is low because 3 gallons of FOAM provide 1,000 gallons of extinguisher.

# Training men with Rockwood FOAM costs you least, saves you most

Rockwood Double Strength FOAM liquid gives you more efficient fire protection at lower cost than any other fire extinguishing agent. By mixing only 3 gallons of FOAM liquid with 97 gallons of water and 900 gallons of air you get 1,000 gallons of a powerful fire-fighting mixture — *the cost of which, per gallon, is only three tenths of 1% of the cost of FOAM.*

Double Strength FOAM liquid helps you improve and economize your departmental training too. The very small proportion required to produce this extinguishing agent permits training under actual fire conditions at negligible cost.

For further facts on Rockwood Double Strength FOAM, tested and listed by Underwriters' Laboratories, Inc., send coupon today.

**ROCKWOOD SPRINKLER COMPANY**
*A Division of The Gamewell Company*

*Engineers Water... to Cut Fire Losses*

*Distributors in all principal cities*

ROCKWOOD

**ROCKWOOD SPRINKLER COMPANY**
*A Division of The Gamewell Company*
Portable Fire Protection Division
467 Harlow Street
Worcester 5, Massachusetts

Please send me your illustrated booklet on Rockwood fire-fighting products.

*Name* _____

*Title* _____

*Company* _____

*Street* _____

*City* _____ *Zone* ____ *State* _____

## Fire Insurance Costs High?

—*From page 23*

minor item involved the cost of servicing fire extinguishers used on the blaze.

Now, what can be done to prevent recurrence of such losses? First, insurance organizations provide periodic inspections of industrial plants, at which time their inspectors look for potential fire hazards and report them to plant management.

Often their recommendations are not taken seriously. Visits by inspectors are infrequent, and many things can happen between these inspections. The amount of time an inspector can devote to any one plant is limited, so he has little opportunity to stand and make job observations.

Meanwhile, back at the plant, the superintendent has learned from this fire that good housekeeping is the first step in fire protection. Or has he? He orders a general clean-up, but before the inspector makes his next visit, things will probably be back to normal—that is, not so good.

After a delay of several months, management decides to conduct a definite fire protection program. However, they have no employee with experience in fire protection. Management realizes that to save or make money in a business, it's usually necessary to invest or spend money.

The decision is made to hire a professional fire protection engineer as a consultant on a fee basis, with the responsibility of periodically inspecting the plant (weekly to start but monthly when conditions improve).

In practice, during each visit the fire protection engineer spends sufficient time in the plant to look into every out-of-the-way place, the boiler room, the loft, the yard. If he sees an acetylene torch used, he may observe the operation to learn the practices followed in the plant. He starts a system of fire permits, requiring a permit and fire watcher before the beginning of cutting or welding jobs.

Aisles and exits are kept clear. The necessary number of fire extinguishers are checked and arrangments made for proper servicing. When alterations or additions to the building are considered, he is asked to look over the plans and specs and make recommendations.

Tests are conducted periodically on the standpipe system and yard hydrants to verify adequate pressure and water flow. Storage and use of flammable solvents are investigated. Instructions are given to employees on the proper use of the various types of fire extinguishers. And a fire brigade will be organized and trained. (Remember, improper use of extinguishers permitted the small fire in this example to get out of control.)

The fire protection engineer walks into the boiler room of this imaginary plant and finds a painter busy cleaning used paint brushes by soaking them in a large, open pan of gasoline on the floor some distance from the oil-fired burner. The painter doesn't realize that gasoline evaporates rapidly from this large exposed liquid surface, or that its vapor is several times as heavy as air and collects on the floor, in pits, and in other low places.

Paradoxically, many members of


For unfailing safety and comfort...

4 DAVIS HEDGARDS

"Dielectric" HAT and CAP
"All Plastic" HAT and CAP

"Dielectric" HAT and CAP Individually tested; meet E.E.I. specification AP-1 1959.

**TOUGH:** Injection molded plastic will withstand repeated 40 ft. lb. impact tests.

**SAFE:** Exceeds 20,000 volts in dielectric test.

**EXTREMELY LIGHT WEIGHT**

**NO METAL PARTS**

**MOLDED LUGS** for attaching chin strap.

**COLORS:** Dielectric Hedgards in standard yellow. Plastic Hedgards in white, yellow, grey.

**PLASTIC SNAP-IN SUSPENSION** grips low on back of head to hold hat securely in position. Easily cleaned or sterilized; replaceable sweatband; adjusts to head sizes 6½-7¾.

**WRITE FOR BULLETIN 1419**

"All Plastic" HAT and CAP For normal hazards. Hat meets Federal specification GGG-H-142-b (Oct. 8, 1953).

SAFETY DAVIS DIVISION

DAVIS EMERGENCY EQUIPMENT CO., INC.
55 Halleck Street, Newark 4, New Jersey
In Canada: Levitt Safety Ltd., 747 Vaughan Road, Toronto

# one foot or 500' UP

## *SAFETY and EFFICIENCY are MUSTS*
## when your men work off-the-ground

Maybe you're pretty proud of your safety record. *Maybe you're not.* In any event, you can get more down-right safety . . . *and efficiency* . . . by using off-the-ground working equipment designed, engineered and manufactured by a company which has been dedicated to off-the-ground safety for 50 years . . . a company which knows from experience *what* to do, *and how*, to provide the features that can keep your safety record clean.

And, what's more, one who has *all* the variety and styles of equipment needed to do every conceivable kind of plant maintenance, production or construction work, interior or exterior . . . whether you need to have working platforms a foot or 500 feet, or more, off-the-ground.

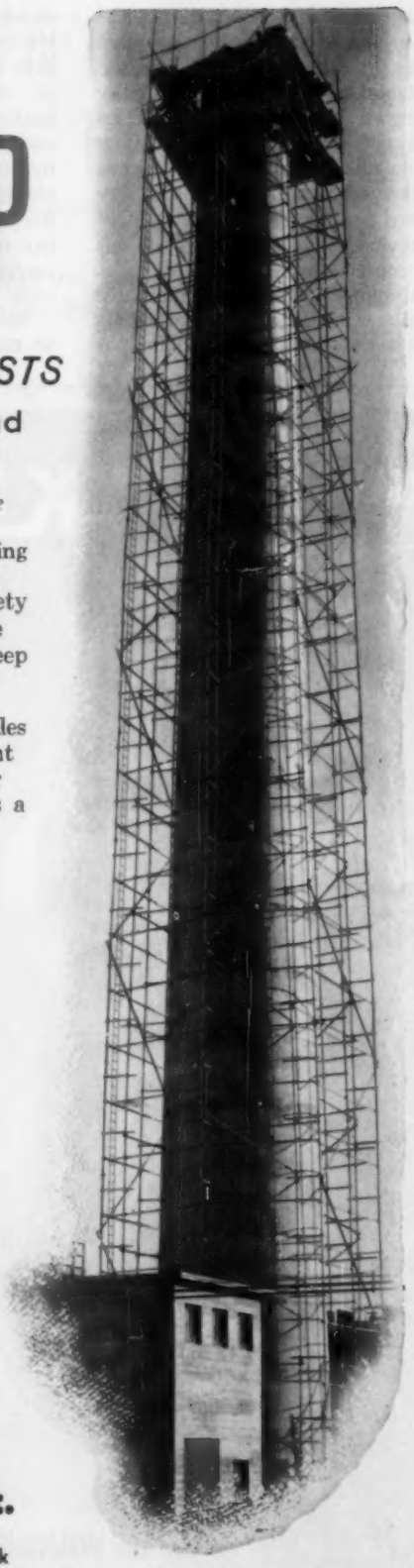
PS CO. Has Everything You Need
To Make Your Off-the-ground
Working Conditions Safe and Efficient

**LADDERS** . . . step, platform, single and extension, and special trade types — in wood ("Gold Medal" ®) aluminum and magnesium. Trestles and special accessories.

**SCAFFOLDING** . . . steel types in "Trouble Saver" ®. Sectional and "TubeLox" ® tube and coupler Scaffolding for working platforms to any size, shape or height. Rolling and stationary scaffolds in steel and aluminum for specific conditions.

**HANGING SCAFFOLDS** . . . "Gold Medal" Midget and Junior Scaffolds (hanging) for light-duty work. "Gold Medal" Safety Scaffolds for large, heavy jobs.

**PLUS,** locally available engineering service and unbiased help in selecting the right equipment for your particular needs!



**MAKE SURE . . . write for Bulletin G205 RR . . . NOW**

**THE PATENT SCAFFOLDING CO., Inc.**

**38-21 12th Street, Dept. NSN, Long Island City 1, New York**

1550 Dayton St., Chicago 22 • Branches in all principal cities • 6931 Stanford Ave., Los Angeles 1

IN CANADA: CANADIAN PS CO., 329 DUFFERIN ST., TORONTO

management and supervision present in the average industrial plant during normal working hours are available to assume responsibility during any fire. But at night and on weekends and holidays, the safety of the million-dollar plant depends on the judgment of an elderly, untrained and possibly disabled watchman who may or may not do his job conscientiously.

A younger, well-trained mechanic familiar with the entire plant should be on duty in off-hours. His pay should be equal to his responsibility. He should be thoroughly acquainted with the location and operation of all valves, electric switches, the heating plant, air conditioner, and such equipment. And he should be trained in the proper use of all extinguishing apparatus. Then, if a fire occurs, a pressure pipe breaks, the oil burner fails, or any other emergency happens, he'll be able to cope with the situation immediately.

Several years ago I was asked to make a brief survey of a large poorly-maintained industrial plant with several acres of buildings close together. By poorly maintained, I mean from the fire protection viewpoint. Actually, the aisles were kept clear, and a casual visitor might disagree with my opinion.

The chief recommendation of a long list presented to management suggested the engaging of a professional fire protection engineer as a consultant to make weekly inspections of the plant. Conditions were such that I recommended the plant get the best engineer obtainable, regardless of cost.

Months later, I stopped in to find what had been accomplished. No changes in any of the numerous fire hazards were apparent. I found the superintendent had decided *not* to engage a fire protection engineer. Instead, he promoted the assistant head janitor to do fire protection work.

Not only was this janitor unqualified, but his fellow workers—aware of his limitations—had no respect for his recommendations, even though they might be reasonable. Consequently, little or nothing was accomplished.

A fire protection engineer can frequently save a plant money. He will ask management to obtain from the fire insurance broker a list of substandard conditions for which a penalty was applied when the insurance rate was determined by the rating organization. This is done in the case of our hypothetical plant. The report received from the broker indicates these deficiencies:

1. Brick building walls are not of required thickness. This calls for a small penalty in the insurance rate, but not enough to justify alteration to the building walls.

2. Stairs are not enclosed by fire-resisting walls or partitions, as required, and a larger penalty is applied. Management will investigate the economic feasibility of correcting this condition.

3. For absence of approved safety cans for handling flammable solvents, a heavier penalty is applied. Only a half-dozen safety cans are required—at about $10 each. This is only a fraction of the annual saving that can be had, if they are procured.

4. A similar penalty is placed in the rate for the lack of approved waste cans with self-closing tops for the disposal of oil rags and waste. These cans

# do your foam towers measure up to these standards?

1. Are they built to withstand extreme rough treatment? ☐ Yes ☐ No
2. Would you feel confident in a high wind? ☐ Yes ☐ No
3. In the emergency, can you handle mechanical or chemical foam with the same gooseneck, without requiring "extras" for this purpose? ☐ Yes ☐ No
4. If yours are the "detachable" type of gooseneck, can you accomplish the "detaching" operation without having personnel beneath it, where they might be struck if the gooseneck dislodges and falls? ☐ Yes ☐ No
5. Are your goosenecks of heavy gage stainless steel, built to take the high heats of a flammable liquid fire? ☐ Yes ☐ No

**If you can answer yes in all cases, you already have National Aer-O-Foam Towers. If not, you need them! For full information, write for Booklet G.**

## NATIONAL FOAM SYSTEM, INC.

**West Chester, Pa.**

are not expensive either, compared with possible saving.

5. For permitting the accumulation of combustible rubbish, poor housekeeping practice, a heavy charge is made. This condition was the direct cause of the fire and the resultant heavy loss. However, it's an item that can be handled with little cost. The extra premium now being paid because of this condition nearly equals the yearly wages of another janitor. And only a portion of his time would be required to remove the daily accumulation of rubbish.

6. In many locations throughout the plant electric wiring is substandard. Permanently correcting this condition should not cost much more than the annual saving of the first year. After that, the saving is real.

Now, the fire protection engineer convinces management to have these conditions corrected. A request is made through the broker to arrange for a reinspection of the plant by an inspector of the rating organization. Substandard conditions have been corrected, and the penalties removed from the rate schedule. This results in a sizable reduction in the annual premium for an indefinite number of years.

Remember, if the plant is a good fire risk, the fire insurance premium is low. If the plant is a poor or bad risk, the premium is high. In either instance the insurance company takes a gamble. So, if a reduction in rate is to be obtained, the initiative must be taken by management through the fire insurance broker.

The fire protection engineer will also have management inquire of the broker what further reduction in rate may be obtained if the night watchman is required to punch a recording clock on each of his hourly tours. This can be a clear saving after the first year.

What about installation of automatic sprinklers in this old building? Sprinklers are the most effective and reliable form of fire protection, and their installation will bring a big reduction in premium. Depending on the type of system, the number of sources of water supply, and other factors, the size of the reduction in the yearly premium may vary considerably. But in some exceptional cases the insurance rate has been reduced from about one dollar per $100 of value to as low as 10 cents.

If the valuation is high, this may give a phenomenal reduction in premium. However, the cost of installing a sprinkler system is high and management may have to use a sharp pencil to determine if the cost can be economically justified. On an average, the installation of a sprinkler system should pay for itself in about five years, but protection continues indefinitely.

By judicious expenditure of relatively little money to reduce fire hazards in most industrial plants, the cost of fire insurance can be materially reduced. Many plants built in recent years have been designed and constructed in accordance with fire protection standards and are operated in the prescribed manner, thus enjoying a minimum fire insurance rate. In such a plant improvement is next to impossible.

The insurance rate on the contents of a building will be somewhat higher than on the structure.

—*To page 88*

Genuine, Spring-action

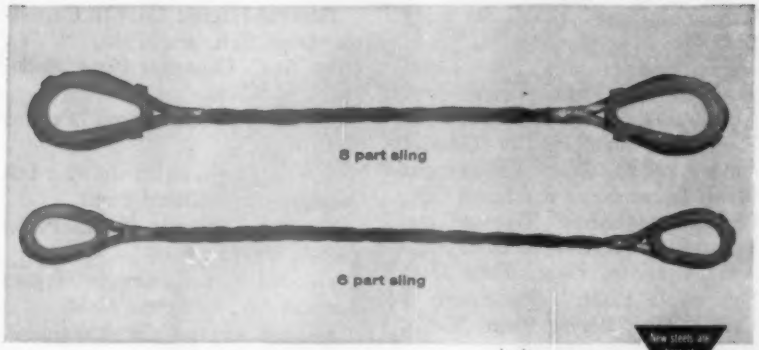
*RIPPLE® Sole

You'll stand and walk in greater comfort and safety than you've ever known before! Shock-absorbing, spring-action sole reduces fatigue . . . cause of many late day accidents . . . to let you work on your feet *hours longer without tiring!* Best possible traction on wet or slippery surfaces! Try them . . . enjoy them NOW!

***FREE!** Write for "Scientific Principles" folder*

*TM Ripple Sole Corp.

RIPPLE SOLE CORPORATION
532 Mutual Building Detroit 26, Michigan




Now Tuffy covers all the bases...

## NEW HAND-BRAIDED SLINGS

### are added to the UNION line

Union Wire Rope Corporation, makers of famous Tuffy patented, 9 part, machine-braided slings, now bring you top quality hand-braided slings. Meet the new members of the Tuffy team:

**The hand-braided 6-part sling** provides wide bearing area; greatest single-plane flexibility; least strength loss under severe bending; high cutting and twisting resistance.

**The hand-braided 8-part sling** provides extra wide bearing area, gives extra flexibility in all planes, low strength loss in bending, highest resistance to kinking and spinning.

Like the entire line of Tuffy slings and hoist lines, these new slings are the product of extensive field and laboratory research. They're specially designed for extra strength and flexibility. Tight end-braiding keeps component parts equal in length so that each rope carries its full share of the load.

In these new slings you'll get quality backed by Union Wire Rope experience and integrity. And you'll get a bigger dollar valve in longer service life with greater safety.

**Your Tuffy Distributor Will Help You Save Money on Every Sling and Wire Rope Use**

He's the man to see when you're replacing or adding slings, hoist lines and wire rope. He is set up for fast service, backed by his nearby Union Wire Rope branch office and warehouse staff and factory engineers. Get in touch with him.

## Tuffy Tips

*—on safe use of*
Slings and Hoist Lines

### Professional Weight Lifters Work the Safety Angles

Here's a tip that could save an injury and absenteeism. The weight lifter's secret is proper leverage. Plus use of major leg muscles instead of back muscles. He never leans over to pick up the load. He squats down as near as possible to it. Lifting action comes from legs and thighs. If your workers must use muscles for some of the lighter lifting jobs, these points are worth remembering. But wherever possible—and always for heavy loads—use hoists and slings.

**More Tips for Reducing Materials Handling Accidents**

1. Teach your workers rated load factors. Warn them not to overload slings.
2. Use the right size hoist for every heavy lifting job. Don't put the load on muscles.
3. Show workers how to rig hoists properly and safely.
4. Inspect hoist load brakes often. Slipping or dragging brakes are a hazard.
5. Be sure to use the proper sling for the job. Don't assume that all slings made of wire rope are right for all lifting jobs.

**FREE!**
**New Tuffy Sling Handbook**

All about slings from A to Z, including types, dimensions and rated loads. Address **Union Wire Rope Corporation, 2224 Manchester Ave., Kansas City 26, Missouri.** Specialists in high carbon wire, wire rope, braided wire fabric, and stress relieved wire and strand.

**UNION** Wire Rope

*Subsidiary of* ARMCO STEEL CORPORATION

OTHER SUBSIDIARIES AND DIVISIONS: Armco Division • Sheffield Division • The National Supply Company
Armco Drainage & Metal Products, Inc. • The Armco International Corporation • Southwest Steel Products

## Distinguished Service

—*From page 44*

Consolidated Paper Corp., Ltd., Belgo Div., Shawinigan, Que.

Continental Can Co. Inc., #88 Wilmington, Wilmington, Del.

The Electric Power Board of Chattanooga, Tenn.

Ferro Corp., Frit Div., Nashville, Tenn.

Ford Motor Co. (10): Buffalo Stamping Plant, Metal Stamping Div.; Cleveland Engine Plant No. 1, Engine and Foundry Div.; Dearborn Engine Plant, Engine and Foundry Div.; Dearborn Stamping Plant, Metal Stamping Div.; General Offices, Ford Div.; Indianapolis Plant, Transmission & Chassis Div.; Livonia Automatic Transmission, Transmission & Chassis Div., Mahwah Assembly Plant, Ford Div.; Sharonville Plant, Transmission & Chassis Div.; Wayne Plant, M-E-L Div.

General Electric Co. (2): Capacitor Dept., Hudson Falls, N. Y.; Irmo, S. C. Capacitor Plant, Asheboro, N. C.

General Foods Corp., Perkins Div.

The B. F. Goodrich Co. (2): Los Angeles Plant; Miami Plant.

Goodyear Atomic Corp., Portsmouth, Ohio.

Ground Systems Group, Hughes Aircraft Co., Fullerton, Calif.

Hughes Aircraft Co., Communications Div., Los Angeles, Calif.

International Petroleum Co., Ltd., Talara Operations, Talara, Peru, S. A.

National Safety Council, Chicago.

New York Trap Rock Corp. (2): Clinton Plant, New Hamburg, N. Y.; Tomkins Cove, N. Y.

Post Office Dept., Washington, D. C.

The Pure Oil Co., Lemont Refinery, Lemont, Ill.

RCA Victor Co., Ltd., Plant and Branches, Montreal, P. Q., Canada.

Reynolds Jamaica Mines, Ltd., St. Anne, Jamaica, B.W.I.

Ryan Aeronautical Co., Electronics Div., Torrance, Calif.

City of San Diego, Calif., Dept. of Public Works, Street Division.

Tellepsen Petro-Chem Constructors, Dow Chemical Co., Plants, Freeport, Texas.

Tennessee Coal & Iron Div., United States Steel Corp. (2): Fairfield, Ala., Sheet Mill; Fairfield, Ala., Steel Works.

Texaco, Inc., Refining Dept., Lawrenceville Works.

Texas Power & Light Co., Dallas, Tex.

Union Electric Co., Transmission & Distribution Div., St. Louis, Mo.

Union Oil Company of California, Oleum Refinery.

U. S. Forest Service (2): Northern Region, Missoula, Mont.; Pacific Northwest Region, Portland, Ore.

Washington Gas Light Co., Washington, D. C.

Westinghouse Electric Corp., Small Motor Div., Lima, Ohio.

West Point Manufacturing Co., Lanett Mill Div., Lanett, Ala.

Winthrop Laboratories, Rensselaer, N. Y.


# BEST PROTECTION
## Your Floors Ever Had!

# LEGSURE
## only resin-type Polish to earn the famous York Seal

QUALITY CONTROLLED YORK RESEARCH CORPORATION

If you think all floor polishes are alike, wait till you try LEGSURE.

It's a slip-resistant, scuff-resistant, dirt and water repellent. Self-polishing, it gleams like a new penny *with* or *without* buffing. Spreads evenly, dries quickly with never any tackiness.

**WAIT TILL YOU SEE THIS REPORT CARD**

Subjected to punishing Laboratory tests by York Research, LEGSURE piled up a stack of "Excellents" that would make a proud parent pop a button.

We'll gladly send a copy of the York report so you can prove to yourself there is a difference in polishes. That LEGSURE makes your floors look better, last longer. That it applies easily, functions perfectly with only routine maintenance and *Saves you Money* in labor and materials.

*Clip the Coupon or write today.*

W. G. Legge Co., Inc. N-1
Send me a copy of the York Report and full information on Legsure.
Name.....
Title.....
Firm.....
Address.....
City..... Zone.... State.....

**Walter G. LEGGE Company, Inc.**
Dept. N-1, 101 Park Ave., New York 17, N. Y.
*Branch offices in principal cities. In Toronto—J. W. Turner Co.*
**See us at Booth #846, Plant Maintenance Show**

# Fixed Safety Margin + Comfortable Fit

There's no gamble with safety when workers adjust this new Jackson safety hat headgear for good fit and comfort. The 1¼ -inch inside distance over the top of the head is there to stay.

Headgear consists of CRADLE and HEADBAND, connected by four "T"-STRAPS; all are made of polyethylene. This assembly is pliable, resilient, shock absorbing. It also holds its shape and is smooth, without pressure points. It is easy to clean, even without removal from hat or cap.

CRADLE fastens firmly to the hat shell, providing a permanent distance of 1¼ inch between head and inside of shell, measured under 25 pounds of pressure applied to top of hat.

HEADBAND with all-around, soft-lined leatherette sweatband is adjustable to clearly marked hat sizes from 6¾ through 7½, and is inexpensive to replace.

"T"-STRAP CONNECTION allows about ¾ inch of headband height adjustment without disturbing the fixed crown safety.

This new headgear will be standard at no extra cost on JACKSON FIBER GLASS HATS and CAPS which, as before, pass all physical requirements of Federal Specification GGG-H-142b and on the ALUMIHAT and ALUMICAP which fill the same requirements except for electrical resistance.

ADD TO THE SAFETY AND COMFORT of your present Jackson Hats and Caps (fiber glass and aluminum) by replacing old headgears with this new, all-plastic, fixed-crown safety headgear.

**JACKSON FIBER GLASS SAFETY HAT AND CAP**
**Chin straps of high quality elastic webbing are available to fit all Jackson safety hats and caps.**

**THE JACKSON "ALUMIHAT" AND "ALUMICAP"**

**"WINTERIZERS" FOR SAFETY HATS AND CAPS**
***Colcap* to protect the skull, *Frigicap* (right) with adjustable chin strap to protect the ears as well.**

***Sold Everywhere by Better Welding Supply and Safety Products Dealers***

**Jackson Products**

**31739 Mound Road, Warren, Michigan**

# Prevent Conflicting Dates

**Here are dates of safety conferences scheduled for 1960. One recurring problem in setting up meetings has been conflicting dates. This schedule is published to help anyone setting up a conference avoid competition from another meeting.**

| Date | Safety Conferences | Location |
|---|---|---|
| | **March** | |
| 6-8 | Southern Safety Conference | Jacksonville, Fla. |
| 9-10 | Philadelphia Safety Conference | Philadelphia, Pa. |
| 15-16 | Northeastern Indiana Safety Conference | Ft. Wayne, Ind. |
| 16-18 | Central States Safety Conference | St. Louis, Mo. |
| 20-22 | Massachusetts Safety Conference | Boston, Mass. |
| 27-30 | Texas Safety Conference | Dallas, Texas |
| 3/28-4/1 | Greater New York Safety Conference | New York, N. Y. |
| 29-30 | Northern California Safety Conference | Oakland, California |
| | **April** | |
| 4-5 | Toronto Safety Conference | Toronto, Ontario |
| 5-7 | Western Pennsylvania Safety Conference | Pittsburgh, Pa. |
| 11-13 | Western Safety Conference | Los Angeles, Calif. |
| 12-14 | Michigan Safety Conference | Detroit, Michigan |
| 12-14 | Western New York Safety Conference | Buffalo, N. Y. |
| 19-21 | All Ohio Safety Conference | Columbus, Ohio |
| 20-21 | Central Indiana Safety Conference | Indianapolis, Ind. |
| 25-27 | West Virginia Statewide Safety Conference | Charleston, W. Va. |
| | **May** | |
| 2-4 | Eastern Pennsylvania Safety Conference | Pennsylvania |
| 5-7 | Virginia Safety Conference | Richmond, Virginia |
| 4-6 | North Carolina Safety Conference | Winston-Salem, N. C. |
| 11 | Mansfield Area Safety Conference | Mansfield, Ohio |
| 12-13 | Northwest Industrial Safety Conference | Seattle, Washington |
| 18-19 | Oklahoma Safety Conference | Tulsa, Okla. |
| 19-20 | Lake Superior Mines Safety Conference | Duluth, Minnesota |
| | **September** | |
| 15-16 | Maine State Safety Conference | Rockland, Maine |
| 22-23 | Governor's Industrial Safety Conference | Baltimore, Md. |

SAFETY SAM says:
"I always use
Dockson
GOGGLES
they give me more
protection and
comfort!"
MODEL 96 GOGGLES
MODEL 40 SPECTACLES
MODEL 492 GOGGLES
There is a Dockson goggle or spectacle to meet any requirement. Low cost, high quality equipment, "Built for better protection." Scientifically designed for safety with maximum comfort. Many outstanding features and careful construction usually found only in higher priced equipment. You'll like 'em!
Write for our Head & Eye Protection Catalog and name of your distributor.
Dockson CORPORATION
3839 Wabash
Detroit 8, Mich.


**DATES NOT SET**

**FOR 1960 Conference**

Connecticut Safety Conference
Louisiana Safety Conference
Camden, N. J. Safety Conference

**NO EXHIBITS IN 1960**

Central New York Safety Conference
Mid-West Safety Conference
Genesee Valley Safety Conference

Circle Item No. 41—Reader Service Card

Circle Item No. 42—Reader Service Card

# cold feet: help is on the way!

About your outdoor workers, do they slow up in bitter weather? Lose efficiency? Do colds and accidents dog their footsteps? Here's a great way to help them: safety boots that shut out cold, seal in warmth, help keep feet dry. For two years now, thousands and thousands of outdoor workers have worn these 8-inch moccasin boots in below-freezing temperatures, and they swear by them. Ask for #S-4135, sizes D6-13, E6-12, EE6-13. It has a moccasin toe, with oil-resistant Neocork sole and heel. Fully insulated, Quilon®-tanned upper for water and chemical resistance. Fully leather-lined, with cushioned insole and storm welt. Steel toe box. Send coupon for details of our complete safety shoe line. And for set of free safety posters too.

A DIVISION OF MELVILLE SHOE CORPORATION

Thom McAn SAFETY SHOES

**Thom McAn Safety Shoe Division**
**25 W. 43 St., N.Y. 36**

Gentlemen. Please send me the following at once: (Check service required)

- ☐ Details of Thom McAn's Sales Plans
- ☐ Illustrated list of Thom McAn Safety Shoes
- ☐ Set of safety posters

Name _____ Position _____

Firm _____

Address _____

City _____ Zone _____ State _____

—*From page 82*

But correction of deficiencies which will result in reduction of the premium on the building will automatically bring about a reduction in the premium on the contents.

As the cost of the improvement has already been charged against the building, the reduction in the premium on the contents is all pure saving. And by improving conditions in the plant—preventing or quickly controlling fires—the indirect non-compensated fire losses can be avoided.

The United States has the highest per-capita fire loss of any country in the world, so it's the civic duty of every one of us to make an all-out effort to reduce these fire losses and the accompanying loss of human life.

All practicable steps should be taken to prevent accidental fires or to control them while they're still small. And no one is better qualified to assist in such a program than a professional fire protection engineer.

# NSC Gives NSC an Award

## We worked for it, we presented it, we accepted it

Gen. G. C. Stewart, executive vice-president, gives Award of Merit to A. J. Gagliardo, assistant director, Stock and Shipping. At right, Arthur S. Kelly, safety director.

Recently the National Safety Council presented itself with an Award of Merit, earning it the *hard way* by intensive self-analysis and heeding its own advice.

A. J. Gagliardo, assistant director of the Stock and Shipping Department, accepted the award on behalf of the NSC staff from Gen. G. C. Stewart, executive vice-president of the Council. Arthur Kelly, director of NSC Technical Publications and safety director, supervised the two-year effort that led to the award.

This campaign involved physical and psychological alterations. Physical changes ranged from grounding of electric office equipment, relocating certain fire extinguishers, and buying fireproof wastebaskets to providing leather gloves for shipping room workers, relocating office aisle markings, and bolting multi-level cabinets to prevent toppling.

Obligated to keep its 100,000 sq. ft. office in safe order, the Council's staff of 360 works in a "glass house." But, as Gen. Stewart said: "No place can be 100 per cent safe, not as long as human beings with human failures work there. But we try to come close."


**FREE**

**"COLOR FOR SAFETY" folder**

Beautifully illustrated Valdura folder shows cut-away section of an entire industrial plant with all danger areas painted in appropriate safety colors. Special listing gives recommended colors for every safety application—from overhead cranes to outdoor fire hydrants. Folder also includes information on "Good Housekeeping" for your plant. Mail coupon today.

VALDURA PAINTS THAT ENDURE

**VALDURA HEAVY-DUTY PAINT DIVISION**
**AMERICAN-MARIETTA CO., CHICAGO 11, ILLINOIS**

Please send me FREE Valdura "Color for Safety" Folder.

NAME_____
COMPANY_____
ADDRESS_____
CITY_____ STATE_____

INSIDE *and* OUT...

# NOW

MORE COMFORTABLE
MORE DURABLE
*...and safer than ever!*

## EXCLUSIVE

**POLYETHYLENE**
**DUAL SUSPENSION**
***strong, pliable, comfortable, easy to clean***

The BIG NEWS from FIBRE-METAL is a DOUBLE FEATURE:

**1)** The polyethylene Suspension is a *single unit* composing both a "fixed" safety factor as well as an "adjustable" clearance from the shell. EACH ONE, INDIVIDUALLY, PASSES FEDERAL SPECIFICATIONS! The entire Suspension, including the headband, is soft and pliable for comfort, rugged for safety, clean in design that stays clean and is easy to clean.

**2)** The Shell has an added "veil" of fine glass fibres that achieves a thin layer of resin and glass fibres close to the surface for superior weathering and abrasion resistance.

These "two features" are exclusive with FIBRE-METAL!

### OTHER FIBRE-METAL FEATURES

**3)** New "flush buttons" in shell and headband increase wearing comfort.

**4)** Polyethylene Suspension will not mildew, sour or rot. Easily cleaned or sterilized. Unaffected by detergents.

**5)** Headband of softly pliable polyethylene conforms to head...adjusts to any head size from 6⅝ to 8.

**6)** All edges of suspension rounded for comfort.

**7)** Laces are recessed to prevent discomfort ...and to adjust for depth.

**8)** Triple adjustment of headband to *raise, lower or tilt* headband to increase individual comfort or to adjust for adverse work conditions.

**9)** Provision for chin strap in every hat and cap.

This NEW DUAL Suspension is interchangeable in *SuperGlas, SuperLite* and *SuperLectric* Hats and Caps...and is interchangeable with all Fibre-Metal Suspensions in the field.

**OVER 52 YEARS OF WELDING & SAFETY**

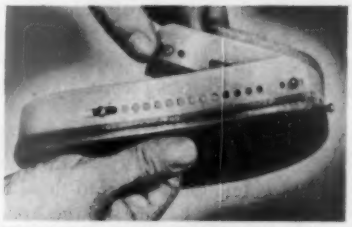
NEW "**DUAL** *SUSPENSION" for SAFETY*

**NO METAL PARTS**

**1**

1¼"

**NEW 2 "DUAL** *FIBERGLAS" SHELL for DURABILITY*

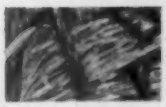


Headband of softly pliable polyethylene conforms to head...ADJUSTS TO ANY HEAD SIZE from 6⅝ to 8.

**SUSPENSION REMOVABLE, but ONLY headband-sweatband need be replaced...saves time and 30% replacement cost. No dangerous metal parts.**

DUAL FIBERGLAS! The fine glass fibre "veil" achieves a thin layer of resin and glass fibres close to the surface for superior weathering and abrasion resistance.

**PROVED BY 14½ MONTHS WEATHERING TEST**



View of an ordinary safety hat shell surface after 14½ months of actual weathering in sun, wind and rain...24 hours a day.

Here's the nearly new look of Fibre-Metal's SuperGlas Shell after 14½ months of weathering. Abrasion tests show similar results.

*ASK YOUR WELDING & SAFETY SUPPLY DISTRIBUTOR FOR BULLETINS*

# THE FIBRE-METAL PRODUCTS COMPANY

**CHESTER, PENNSYLVANIA**
***In CANADA: Fibre-Metal (Canada) Limited, Toronto***



Circle·Item No. 44—Reader Service Card

Untreated roof section (rear) splashed with kerosene in test, burned for 37 minutes and was destroyed, except for floor timbers. Fire in treated roof section went out after 13 minutes when kerosene was consumed. Charring was only damage.

# Impregnated Wood Won't Feed Flames

INDUSTRIAL STRUCTURES built of wood can look forward to pressure-impregnated chemical protection against fire, decay, and termites. Such protection, now on the market in the form of chemical fire retardant and preservative formulas, has a record of holding blazes to a minimum in spread and effect.

Applications include roof framing, decking, floors, warehouses, interior trim and finish, rated fire doors, house framing, and wall and partition studs, as well as industrial work benches, tote boxes, pallets, and shelving.

What happens when fire strikes this wood? Instead of producing flammable gases and tars, as in untreated wood, impregnated chemicals react to hold back burning on the surface and inside wood. When heat is no longer applied, burning stops.

In a recent demonstration at Joslyn Mfg. & Supply Co., Franklin Park, Ill., kerosene-soaked wood chips were set afire inside two identical lumber and plywood model house sections with shingle roofs. One section had been pressure treated with fire retardant chemicals; the other model was untreated. Kerosene also had been thrown against the undersides of the roof and over floor boards.

Set aflame, the untreated section burned for 37 minutes, until doused with water. Only charred floor timbers remained. Fire in the treated section went out after 13 minutes, when kerosene fuel burned completely. The treated section remained intact, with charred walls and roof and with but one small hole in the ⅜-in. plywood.

Case histories speak favorably for the new chemicals. In one rocket shell plant, an intense lacquer fire occurred in the paint department. There were no automatic sprinklers. Lighting fixtures and wiring melted in a 20-by-100-ft. area, but fire retardant wood helped firemen confine the blaze to a 20-by-50-ft. site.

Although heat charred fire-protected ceiling wood to a ½-in. depth, structural strength was retained and no wood had to be replaced. Occupancy was "as usual."

In another fire, two salamanders in an unguarded service building became overheated and charred flooring beneath. The weakened floor caused the salamanders to upset, spilling burning fuel on nearby acetylene welding hose.

The hose burned through, and was destroyed by leaking acetylene gas that ignited. But only the floor burned by fuel had to be replaced.

Currently, at least 17 midwestern state rating bureaus rate wood as basically incombustible. Investigations and a tunnel test (ASTM 84-50T) by Underwriters' Laboratories, Inc., on one type of fire-protected lumber has resulted in an established UL listing of 10 to 15.

The Western Actuarial Rating Bureau has assigned this product incombustible insurance rates for roof decking with a minimum 2-in. nominal thickness and roof supports with minimum 4-in. dimension.

The product also has been approved as incombustible by the Factory Mutual Engineering Division, without restrictions on size and species of wood, and by the Factory Insurance Association.

Among firms making fire retardant chemicals are: Koppers Company Wood Preserving Division, Pittsburgh, Pa.—*Non-Com,* the product mentioned in connection with UL tests and listings of 10 to 15; E. I. duPont de Nemours, Inc., Wilmington, Del.—*CZC-FR;* and Protexol Corporation, Kenilworth, N. J.—*Pyresote,* the waterborne salt formula used in the Joslyn demonstration.

Fire in 170-ft.-high hangar at Tillamook, Ore., burned freely above reach of hose and water pressure. Fire-retardant wood limited extent of blaze.

This article has been adapted from information printed in the *Wood Preserving News,* official publication of the American Wood Preservers Institute.

MR. FRANK B. GRISWOLD, *Vice President-General Manager*, LEHIGH SAFETY SHOE COMPANY, *Emmaus, Pa.*

# "Thanks to neoprene soles, our Lehigh Safety Moccasin is a *2-in-1 shoe* for shop and office"

As Mr. Griswold tells it, "The Lehigh Safety Shoe Company is highly enthusiastic about a new safety-toe moccasin which has been designed for double duty in shop and office. The new moccasin has already become a big hit with supervisory personnel." Mr. Griswold attributes much of this popularity to specially treated neoprene soles. These soles not only have dress shoe styling, but also provide the same long-wearing qualities found in other Lehigh safety shoes.

To illustrate neoprene's durability, Lehigh can cite the case of a plant engineer of a cement mill who wore a pair of Lehigh neoprene-soled shoes for 7 years. During this time, the original soles have been exposed to grease, oils, water, snow and abrasive cement, and have never had to be replaced!

Experiences of this nature explain why Lehigh has now used neoprene soles for 20 years. Today, neoprene is used in their leading work and safety shoe lines. You, too, will find the neoprene sole a lasting sales asset . . . providing longer wear and customer satisfaction. E. I. du Pont de Nemours & Co. (Inc.), Elastomer Chemicals Dept. NS-1, Wilmington 98, Delaware.

DU PONT
REG. U. S. PAT. OFF.

NEOPRENE SYNTHETIC RUBBER

**Better Things for Better Living . . . *through Chemistry***

**BERYLCO TOOLS** may save you one –

Make danger an old-fashioned word. Today's modern tools . . . made of low-cost **beryllium copper** . . . put an end to spark threats, and cut chance of costly fire and explosion. Added value: these up-to-date tools are non-magnetic and can never corrode. Workers like their strength and handling ease.

Safety Tool Division, THE BERYLLIUM CORP., P.O. Box 1462, Reading, Pa.

Send me free copy of your new safety tool catalog. Include name of my distributor.

NAME _____ TITLE _____

COMPANY _____

STREET _____

CITY _____ ZONE _____ STATE _____

BERYLCO® **THE BERYLLIUM CORPORATION**

Reading, Pennsylvania

## Diary

*—From page 14*

strate that he can fill a higher job."

"His lack of technical training is more than offset by his capacity to learn, his common sense, his know-how, and his ability to handle men," writes A. W. Nelson, safety supervisor, Electric Steel Foundry, Portland, Ore.

"How can you be so lucky?" asks A. E. Frankovich, safety investigator, Kokomo (Ind.) plant, Chrysler Corp. "Major advances in safety are usually made by persons not satisfied with the old or present methods of doing things. Past experience proves his ability as a leader; he knows safety is the best asset for meeting production schedules; he is willing to try new methods to solve a problem; he has a good labor relations attitude."

After praising most of the same traits in Bert, C. Dale Wilson, safety director, Illinois Farm Supply Co., Springfield, Ill., writes:

"I will admit that aptitude and technical training are very important. But after observing a number of highly trained technical men, I am inclined to criticize our institutions of higher learning for not including a *must* course covering attitudes. I believe Bert, with his strong points, can enroll in some extension course which would prepare him technically to cope with a radioactive world."

Jim Stone, safety engineer, Continental Casualty Co., Chicago, is not worried that a move into safety work would be a blind alley for Bert. He writes:

"Opportunity for advancement at an early stage in his career, coupled with enthusiasm for safety, will undoubtedly result in the beginning of a successful career in accident prevention. Progressive managements today recognize formal education, but they also recognize proven ability."

Lt. Col. Samuel Z. Orgel (Ret.), base safety officer, Turner A.F.B., Albany, Ga., favors hiring Bert even though he says safety won't be able to hold him because he is headed for a top management position. Says Col. Orgel:

"Bert is one of those rare individuals who seem to be born with the magic touch of leadership. Tech-

nical know-how can be acquired, and if the problem is abstruse, it is better to have the advice of a specialist. A safety man has so many fields that he cannot possibly be expert in them all."

A distinguished Canadian safety man, Arthur Francis, director, Accident Prevention Dept., Workman's Compensation Board, Vancouver, B.C., writes:

"A safety engineer must have a basic knowledge of the technical aspects of the industry in which he is engaged. But as knowledge can be acquired, and as the type of man we want is intelligent and curious and an insatiable scholar, it is not essential that he be a college-trained engineer. Safety engineers are guilty of many inconsistencies. One of the greatest is their constant talking of human behavior's being the root of accidents, and then placing such emphasis on mechanical engineering."

Others voting for the hiring of Bert Harding include:

A. J. Blockell, plant administrator of safety programs for the Defense Electronics Div., General Electric Co., Pittsfield, Mass.; Miss Marilyn Merkuris of Union Sugar, Betteravia, Calif.; Collin Armstrong of Peter Kiewit Sons' Co., contractors, Seattle, Wash.; Walter E. Gorg, Jr., E. D. English & Co., Clayton, Mo.; Harold C. Iarrobino, foreman, Walworth Co., Braintree, Mass.

Both Henry A. Johnson, supervisor, safety and plant protection, Celanese Fibers Co., Cumberland, Md., and Lloyd W. West, safety specialist, General Electric Co. Construction Engineering and Utilities Operation, Richland, Wash., stressed their belief that Bert could be encouraged to further his technical education.

One handwritten but unsigned note on an interoffice memo form ended: "If he can get along with and handle people, he will not be at a serious disadvantage now or five years from now for lack of a piece of paper with a seal on it."

O. G. Burk, training superintendent, Oklahoma City Post Office, defends the hiring of Bert by citing a case close to his heart. He writes:

"We employ some 1,200 men in our post office here, and our safety program began about 1954. Our


# CUT GLOVE COSTS

## GIVE ADDED PROTECTION with

# JOMAC

# INDUSTRIAL GLOVES

Leading manufacturers everywhere are cutting costs and increasing worker-safety by changing to Jomac terry cloth work gloves. Jomacs are made of thick loop-pile fabric that cushions the hands, protecting them against sharp edges and rough surfaces. They are made from various weights of cloth for specific applications. Any two make a pair, since they are completely interchangeable, and they can be reconditioned time after time—will give extraordinary wear. Fill in the coupon below for more information and a free copy of the Jomac Work Glove Catalog.

Jomac also manufactures North PVC Coated Gloves and wet weather garments.

**Jomac sells quality and quality sells Jomac**

Plants in Philadelphia, Pa., and Warsaw, Ind. IN CANADA: Safety Supply Company, Toronto

JOMAC INC., Dept. D
Philadelphia 38, Pa.

☐ Send a copy of your work glove catalog
☐ Have a representative call

Name_____
Company_____
Address_____
City_____ State_____

Circle Item No. 47—Reader Service Card

**Try this...with any sling other than a Cable-Laid!**

• You would soon discover that even a smaller sling has nowhere near the flexibility, resistance to kinking and freedom from crankiness that this two-inch ACCO *Registered* Cable-Laid Sling exhibits. While we do not recommend that you use Cable-Laid Slings like this, we do urge that you use these versatile slings for any lifting application where ease of handling is all-important.

The secret of ACCO Cable-Laid Slings lies in the construction of the wire rope—a combination of six individual wire ropes, not strands, laid around a special steel center. For this reason, Cable-Laid Slings won't kink—even when used on heavy loads with square corners.

ACCO Cable-Laid Slings are clean and bright because they're Galacco coated. Patented DUALOC endings also double-lock sling ends for double security.

And, of course, ACCO Cable-Laid Slings are *Registered* Slings. This is your assurance that each sling is proof-tested at twice its rated load-carrying capacity. Then, and only then, does it merit the ACCO tag and certificate of registration.

Ask your nearby distributor about Cable-Laid—or write us at Wilkes-Barre, Pa., for **Folder DH-532** listing strengths and weights of a full range of Cable-Laid Slings.

**ACCO Registered**
**WIRE ROPE SLINGS**

**Wire Rope Sling Dept. · American Chain & Cable Company, Inc.**
Atlanta, Chicago, Denver, Houston, Los Angeles, New York, Odessa, Tex., Philadelphia, Pittsburgh, Portland, Ore., San Francisco, Bridgeport, Conn.
*In Canada:* Dominion Chain Company, Ltd., Niagara Falls, Ontario

office has a record of 9.54 for the industrial program, compared with a national average for our division of 21.32.

"With the national average for vehicular accidents standing at 3.6, ours is 1.47. The man responsible for this program is our safety officer, Leo Hunsaker. Like Bert, he is lacking formal education.

'He knows the three 'E's of safety, and he places enforcement last. He is sincere, objective, and dedicated to the program. He is respected by employees and supervisors alike. In regional safety meetings his opinions are much in demand. Persons having much more education are amazed at his ability to sift the chaff from the wheat and come up with the kernel of truth."

W. Colvin, safety director, Wm. Davies Co., Danville, Ill., was one of two persons who qualified their answers on the question of hiring Bert. Both he and an anonymous writer from Pennsylvania said the question should be considered carefully from the point of view of Bert's own best interest. Mr. Colvin asks:

"What does Bert want out of life? Find out if he is interested in a life of safety work. If he is interested and has the desire, you simply must hire him."

The anonymous Pennsylvanian says: "It is not your choice to make primarily. You must decide whether to offer the opening to Bert, but he should decide whether it is a good move or not, for Bert."

This writer goes on to make it clear that safety can be a road to high executive position and that it is a fortunate safety director who works with executives who have served a term as safety inspectors.

* * *

So the majority favors the hiring of Bert Harding as the No. 2 assistant safety man on the project. A substantial number of these individuals don't expect him to stay in safety long, and many of them will be sadly disappointed if he doesn't burn the midnight oil over courses in technical engineering subjects.

We have just called Bert and offered him the job, and he starts February 1. He thanks you for your vote.

And so does his boss!

## Library

—*From page 64*

### Health Hazards

"Chronic Cadmium Poisoning." Lars Friberg. *AMA Archives of Industrial Health Hazards.* November 1959. pp. 55/401-61/407.

"Environmental Hazards Associated with the Milling of Uranium Ore." W. B. Harris & others. *AMA Archives of Industrial Health.* November 1959. pp. 19/365-36/382.

"Nitrogen Oxide Content of Smokes from Different Types of Tobacco." A. J. Haagen-Smit and others. *AMA Archives of Industrial Health.* November 1959. pp. 53/399-54/400.

"Pulmonary Talcosis, a Clinical and Environmental Study." J. Messite and others. *AMA Archives of Industrial Health.* November 1959. pp. 62/408-67/413.

"Study of the Toxicity of Dust with Use of the M Vitro Dehydrogenase Technique." J. Marks and G. Nazelschmidt. *AMA Archives of Industrial Health.* November 1959. pp. 37/383-43/389.

"The Toxicological Basis of Threshold Limit Values: 1. Experience with Threshold Limit Values Based on Animal Data." Henry F. Smyth, Jr. *Industrial Hygiene Journal.* October 1959. pp. 341-345.

"The Toxicological Basis of Threshold Limit Values: 2. Pathological and Biochemical Criteria." V. K. Rowe, M. A. Wolf, C. S. Weil and H. F. Smyth, Jr. *Industrial Hygiene Journal.* October 1959. pp. 346-349.

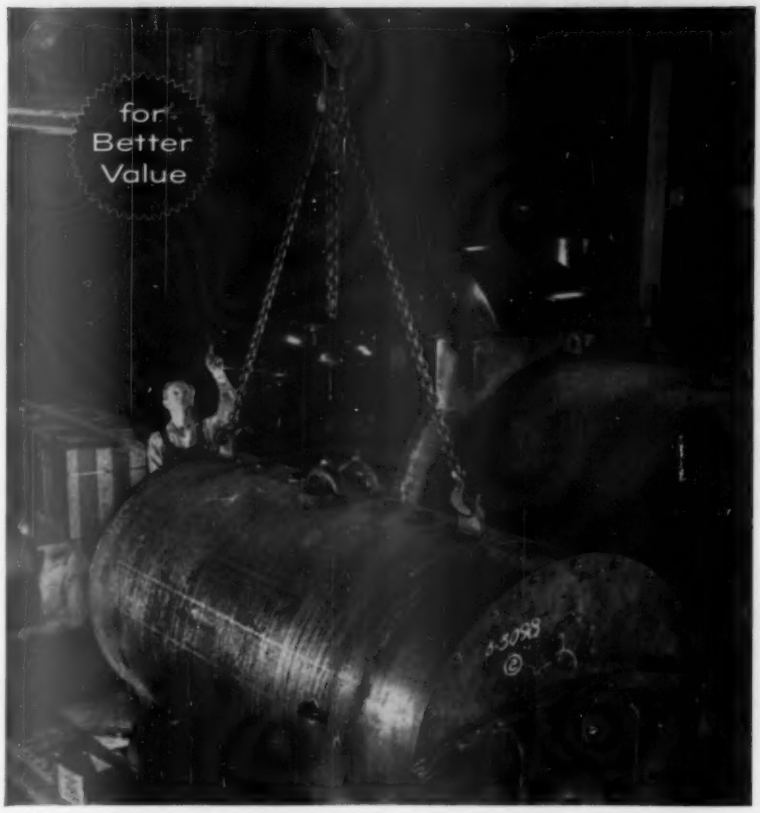
"The Toxicological Basis of Threshold Limit Values: 3. Physiological Criteria." John A. Zapp, Jr. *Industrial Hygiene Journal.* October 1959. pp. 350-356.

"The Toxicological Basis of Threshold Limit Values: 4. Theoretical Approach to Prediction of Toxicity of Mixtures." W. L. Ball. *Industrial Hygiene Journal.* October 1959. pp. 357-363.

"The Toxicological Basis of Threshold Limit Values: 5. The Experimental Inhalation of Vapor Mixtures by Rats, with Notes upon Relationship Between Single Dose Inhalation and Single Dose Oral Data." U. C. Pozzani., C. S. Weil, and C. P. Carpenter. *Industrial Hygiene Journal.* October 1959. pp. 364-369.

"The Toxicological Basis of Threshold Limit Values: 6. Report of Prague Symposium on International Threshold Limit Values." W. L. Ball. *Industrial Hygiene Journal.* October 1959. pp. 370-373.

"The Toxicology of Uncured Epoxy Resins and Amine Curing Agents." Herbert H. Cornish and Walter D.


# Amazing one-day service with new Accoloy Kuplex Slings

• The man to see for really speedy service on your sling chain orders is your nearby Authorized KUPLEX distributor. Within 24 hours, he can supply you with ACCOLOY KUPLEX Sling Chains assembled locally from matched components which have been designed and manufactured for use with all other KUPLEX parts. Matched KUPLEX components are made to ACCO *Registered* specifications from heat-treated ACCOLOY steel, and are factory proof-tested at twice working load limits to assure their being as strong as the chain itself. These facts are attested to in a Certificate of Test issued by ACCO and signed by the distributor who assembles and sells you complete KUPLEX sling chain assemblies.

If it's factory-built slings you desire, he can also supply you with ACCO *Registered* Sling Chains.

• • •

Write our York, Pa., office for the name of the Authorized KUPLEX Sling Chain Distributor nearest to you.

Accoloy Shaped Master Link
Drop Forged Accoloy KUPLEX Hook (magnaflux tested)
Drop Forged Accoloy Kuplex (magnaflux tested)
Accoloy 125 Chain

**6** CHAIN SIZES with these **4** COMPONENTS

• A nearby Authorized ACCOLOY KUPLEX Sling Distributor can furnish promptly from his stock the exact sling chains for your specific requirements; made up from above components. Six chain sizes (¼" through ⅞") are available in single, 2-leg, 3-leg or 4-leg styles.

# Accoloy Kuplex Sling Chains

ACCO

American Chain Division • American Chain & Cable Company, Inc.

Bridgeport, Conn. • Factories: *York and *Braddock, Pa.

Sales Offices: *Atlanta, Boston, *Chicago, *Denver, Detroit, *Houston *Los Angeles, New York, Philadelphia, Pittsburgh, *Portland, Ore., *San Francisco

*Indicates Warehouse Stocks

Gunpowder mixing unit consists of two screw agitators housed in a one-inch-thick tally bowl. Top portion of the bowl and agitator troughs are fabricated of Ampco Metal plate; bottom ends are sand-cast of Ampco Metal.

# Makes explosives mixing less explosive!

One of two screw agitators cast of Ampco Metal and then machined.

## Hazards minimized by mixer of spark-resistant AMPCO® METAL

As a safety engineer, you know the value of using Ampco Safety Tools for low-cost protection in areas where a hot spark might cause fire or explosion. But did you know that the same metal used in these tools is often fabricated into equipment to reduce the hazards of dangerous manufacturing operations?

Take the job of mixing gunpowder, for example. It's such a touchy process that mixing areas are confined to concrete cells or blast-houses. Because the ingredients in gunpowder mixes are so unstable, the greatest care must be exercised in using mixing tools.

That's why so many leading explosives manufacturers use mixers fabricated of Ampco Metal. It not only resists sparks—it also resists the corrosive and highly abrasive effects of gunpowder mixes. (Your production and maintenance people like that.) One powder-plant manager reports that his Ampco mixer has outlasted other types by two to one!

Does this suggest any application for Ampco Metal in *your* plant? Talk it over with your production men — and with an Ampco field engineer. Or write for details. *Ampco Metal, Inc., Dept. 208A, Milwaukee 46, Wis. West Coast plant: Burbank, Calif. — Southwest plant: Garland (Dallas County), Texas.*

T-32

AMPCO® AMPCO


Block. *AMA Archives of Industrial Health.* November 1959. pp. 44/390-52/398.

**Hospitals**

"Falls—A Principal Patient Incident." Frederick Grubel. *Hospital Management.* November 1959. pp. 37-38, 137.

**Logging**

"Self-Dumping Barge Reduces Risk of Accidents." *The Timberman.* October 1959. pp. 40-41.

**Marine Industry**

"Localization of Spinal Cord Injury in a Deep Sea Diver." Lt. Walter L. Taylor and others. *U. S. Armed Forces Medical Journal.* October 1959. pp. 1223-1226.

"New Coatings Can Stop Hull Corrosion." *Marine Engineering Log.* October 1959. pp. 89-92, 181.

**Materials Handling**

"How Safeway Keeps Its Electric Trucks Running." *Pacific Factory.* October 1959. pp. 22-23.

**Meat Packing Industry**

"Hazards in Stunning Methods are Controllable: Safety in Immobilizing for Slaughter." *The National Provisioner.* Oct. 31, 1959. pp. 17, 35.

**Metals Industry**

"Health and Safety in Handling the Newer Metals." William B. Harris. *American Journal of Public Health.* October 1959. pp. 1338-1342.

"Underwater 'Lightning' Sparks New Metal Forming Process." Rupert Le Grand. *American Machinist.* Oct. 19, 1959. pp. 123-124.

**Mining**

"How to Avoid Conveyor Belt Failure." N. J. Cyphers. *Engineering and Mining Journal.* October 1959. pp. 89-91, 94.

"NSC Recommends Safe Steps for Conveyor Belt Operation." *Engineering and Mining Journal.* October 1959. p. 101.

**Quarries**

"Poor 'Job Clean-Up' Causes Quarry Accidents." Norman Jones. *The Constructor.* October 1959. pp. 72-73.

**Radiation**

"Radiation Disability: Will It Be Adequately Compensated?" Earl F. Cheit. *Industrial and Labor Relations Review.* October 1959. pp. 72-89.

**Research**

"Research Problems in Occupational Health." James H. Sterner. *Industrial Medicine and Surgery.* November 1959. pp. 495-497.

**Rules**

"It's the Human Factor that Counts in Safety." *Modern Sanitation and Building Maintenance.* October 1959. pp. 24, 48.

**Shoes**

"Shoe Drive Cuts Losses for Plant Workers and Hormel." *The National Provisioner.* Oct. 31, 1959. pp. 13-14.

**Water Pollution**

"Cleaning Industrial Waste Water." *Pacific Factory.* October 1959. p. 26.

"Water Pollution Will Get Worse." *Engineering News-Record.* Oct. 22, 1959. p. 24.

**ADDRESSES OF MAGAZINES**

Readers are asked to send their requests for copies of magazine articles to the publishers. The NSC Library is unable to fill such orders.

AMA Archives of Industrial Health, 535 N. Dearborn St., Chicago 10.

American Journal of Public Health, 1790 Broadway, New York 19.

American Machinist, 330 W. 42nd St., New York 36.

The Constructor, A.G.C. Building, 1957 E. St., N. W., Washington 6, D. C.

Electric Light and Power, 6 N. Michigan Ave., Chicago 2.

Engineering and Mining Journal, 330 W. 42nd St., New York 36.

Engineering News-Record, 330 W. 42nd St., New York 36.

Hospital Management, 1319 F St., N. W., Washington 4, D. C.

Industrial and Engineering Chemistry, 1155 Sixteenth St., N. W., Washington 6, D. C.

Industrial and Labor Relations Review, Cornell University, New York State School of Industrial & Labor Relations, Utica, N.Y.

Industrial Hygiene Journal, 1014 Broadway, Cincinnati 2, Ohio.

Industrial Medicine and Surgery, 400 S.W. 69th St., Miami, Fla.

Journal of Agricultural and Food Chemistry, 1155 16th St., N. W., Washington 6, D. C.

Marine Engineering Log, 30 Church St., New York 7.

Modern Sanitation and Building Maintenance, Easton, Pa.

The National Provisioner, 15 W. Huron St., Chicago 10.

Nursing Homes, Hotel Bancroft, Springfield, Ohio.

Pacific Factory, 709 Mission St., San Francisco 3.

Personnel Journal, P. O. Box 239, Swarthmore, Pa.

The Plant, St. Joseph, Mich.

Public Health Reports, Public Health Service, Washington 25, D. C.

Scientific American, 415 Madison Ave., New York 17.

Supervision, 505 N. Wesley Ave., Mount Morris, Ill.

The Timberman, 519 W. Park Ave., Portland, Ore.

U. S. Armed Forces Medical Journal, Superintendent of Documents, Washington 25, D. C.

***Aluminized Heat Barrier Garments protect melters from splash, radiant heat ...let them work longer in hot spots***

Now men who have to work in hot spots—have to face temperatures that scorch cloth, burn skin in seconds—can beat the heat with light weight, flexible reflective-protective garments made of "Scotch·shield" Brand Aluminized Fabric.

Steel melters, for example, can work in front of an electric furnace during the full tapping and slag removal period without discomfort—and with minimum danger of spatter burns.

With this better protection against radiant heat and ease of action, repair and maintenance work can be done without shutting down furnaces and kilns—with speed and safety impossible with conventional "insulation types" of safety clothing.

Garments made of "Scotch·shield" Aluminized Fabric reflect up to 90% of radiant heat—last up to 50% longer than old-fashioned, cumbersome gear. For further facts and samples, mail this coupon today.

SCOTCH·SHIELD* BRAND ALUMINIZED FABRIC

*Formerly 3M Brand Aluminized Fabric*

MINNESOTA MINING AND MANUFACTURING COMPANY 3M
...WHERE RESEARCH IS THE KEY TO TOMORROW

Minnesota Mining and Manufacturing Company, Dept. RBY-10, St. Paul 6, Minnesota

Please send me complete information and free samples of "Scotch·shield" Brand Aluminized Fabric.

Name_____ Title_____

Firm_____

Address_____

City_____ Zone____ State_____

# TOPS *in* LONG LIFE

TM Alloy Chain winks at work—outlasts all other grades of chain by a wide margin. "Brute strength"—tensile of 125,000 lbs. psi . . . tough, stress-free links . . . uniform heat-treating make the big difference. Custom made to your specifications . . . tested to double their working load limit and backed by Taylor's Test Certificate. See your distributor or write for Bulletin 14.

**S. G. Taylor Chain Co., Inc.**
Hammond, Indiana

*Everything Swings on TM Slings*

**Taylor Made CHAIN** SINCE 1873

## Employee Booklets

**EMPLOYEE education booklets are a basic part of your safety program. The National Safety Council publishes a wide variety of such booklets which can help shape sound safety attitudes or instruct your employees in the safe practices related to their work or off-the-job activities. Sample copies of recent booklets are available by circling the key number of the ones you want on the Reader Service Card at the back of this issue.**

### ARE YOU SAFETY MINDED?

An amusing "rogue's gallery" of cartoon characters representing "types" of unsafe workers. An effective way to reach employees having the same attitudes and ways to help change them. Stock No. 192.15. Sixteen pages, 3¾″ x 8″, full color illustrations. **Circle No. 510—Reader Service Card.**

### WHAT'S IN IT FOR ME?

This booklet takes a good, hard look at the whole idea of safety—strictly from the worker's point of view. It shows how the worker stands to profit from a good safety record and it explains management's motives in a forthright way. Stock No. 192.09. Sixteen pages, 3¾″ x 8¾″, full color illustrations. **Circle No. 513—Reader Service Card.**

### A PROFESSIONAL CODE FOR DEFENSIVE DRIVING

Dedicated to the millions of professional drivers who developed and refined the concept of "defensive driving" as their approach to the hazards of the highway, this booklet presents the defensive driving technique for all drivers. Stock No. 294.09. Twenty pages, 5¼″ x 8¼″, multicolored illustrations. **Circle No. 514—Reader Service Card.**

### ACCIDENTS IN THE OFFICE

Brightly colored and presented in an eye-appealing way, this new booklet will help alert your "white collar" staff to the common hazards found in their occupational environment. "Accidents in the Office" fills a long-felt need. Stock No. 195.50. Eight pages, 3¾″ x 8″, two-color illustrations. **Circle No. 515—Reader Service Card.**

### BEFORE IT'S TOO LATE!

Dedicated to "all the brave firemen who try to arrive before it's too late," this booklet tells the tragic story of home fires and how to prevent them. Real-life pictures taken at the time of a fire help dramatize the message. Stock No. 599.82. Twelve pages, 3¾″ x 8″, two-color photographs and illustrations. **Circle No. 516—Reader Service Card.**

### FRED FLAME, THE FIERY DELINQUENT

Somewhat humorous in approach, this booklet deals with the deadly serious problem of preventing industrial fires. Written in a simple, direct style, it should drive the message home to your employees. Stock No. 195.81. Sixteen pages, 3¾″ x 8″, illustrated. **Circle No. 517—Reader Service Card.**

### HOW TO WINTER-WISE YOUR DRIVING

Contains essential information on coping with winter driving hazards, based on technical test data compiled by the NSC Committee on Winter Driving Hazards. Stock No. 399.69. Sixteen pages, 3¾″ x 8″, two colors, illustrated. **Circle No. 518—Reader Service Card.**

**For information on other Council employee training publications write to National Safety Council, 425 N. Michigan Ave., Chicago 11.**

NEW SAFETY POSTERS

**JANUARY 1960**

Regular poster users will receive this bulletin by mail each month. Add it to your 1959 Poster Directory to keep it up-to-date.

# Keep 'Em

## . . . FOR EFFECTIVE RESULTS IN YOUR SAFETY PROGRAM

*Put new posters up... hold your accident rate down*

JUMBO POSTER FOR MARCH, 1960

### JUMBO POSTERS

Giant safety messages that are 11'8" wide by 9'11" high. Colorfully printed and weather resistant, these posters command attention. Issued monthly, JUMBO posters will add drama and impact to your safety program . . . and get big results!

### SAFETY BANNERS

A powerful safety message, skillfully designed and colorfully printed on cloth. They measure 3½ ft. high by 10 ft. long. Available in 2 types—outdoor and indoor. Issued monthly, these banners can be spotted in strategic locations in and around the plant.

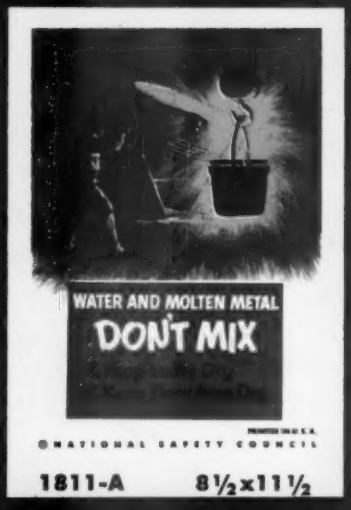
1822-A 8½x11½

1607-A 8½x11½

1717-B 17x23

## THERE'S AN EFFECTIVE POSTER

1764-B 17x23




1811-A 8½x11½

1780-B 17x23

1577-A 8½x11½

©NATIONAL SAFETY COUNCIL

1589-A 8½x11½

©NATIONAL SAFETY COUNCIL

1809-A 8½x11½

©NATIONAL SAFETY COUNCIL

1608-A 8½x11½

©NATIONAL SAFETY COUNCIL

V-1769-B 17x23

©NATIONAL SAFETY COUNCIL

V-1768-B 17x23

©NATIONAL SAFETY COUNCIL

V-1767-A 8½x11½

©NATIONAL SAFETY COUNCIL

1796-A 8½x11½

©NATIONAL SAFETY COUNCIL

T-1801-C 25x38
T-1802-A 8½x11½

©NATIONAL SAFETY COUNCIL

T-1803-B 17x23

# YOUR POSTER PROGRAM SELLS SAFETY . . . 'ROUND THE CLOCK!

You can't beat National Safety Council posters for adding *visual impact* to your safety program. They're the "color spectaculars" that make repeated visual impressions of the importance of safety in your workers' daily lives, in and out of the plant. Poster subjects should be related to plant accident experience, thus pinpointing causes, hammering home prevention ideas and achieving effective results. For further information or program planning aid, write direct to the Membership Service Division, National Safety Council.

## ORDER YOUR POSTERS TODAY!

Cash in on the timeliness, repetition and continuity of a poster program by placing your order now. Order posters from these pages or refer to the National Safety Council 1960 Poster Directory. The complete directory is available for 60c a copy. An automatic monthly poster service is also available at an annual low cost. Write The National Safety Council for further information.

### POSTER PRICES*

| Cat. No. | Type and Size | Single | 2 to 9 | 10 to 99 | 100 to 999 | 1000 to 4999 |
|---|---|---|---|---|---|---|
| 182.13 | "A" (8½x11½")—Any selection, each | ..... | ..... | $ .12 | $ .07 | $ .06 |
| 182.23 | "B" (17"x23")—Any selection (except prefix "T"), each | ..... | ..... | .23 | .195 | .155 |
| 381.23 | "B" (17"x23")—Any selection with "T" prefix, each | ..... | ..... | .20 | .165 | .132 |
| 381.31 | "C" (25"x38")—Any selection | .40 | .40 | .30 | .24 | .22 |
| 184.41 | JUMBO POSTERS — Annual subscrip., each (12 posters) | $ 69.00 | 67.00 | 65.00 | 61.00 | |
| | SAFETY BANNERS — Annual subscrip., each (12 banners) | | | | | |
| 188.51 | INDOOR | 93.00 | 87.00 | 83.00 | 79.00 | |
| 188.61 | OUTDOOR | 100.00 | 95.00 | 90.00 | 85.00 | |

**Members receive 10% discount on these prices. Please enclose check or cash with orders less than $3.00. Prices are subject to change without notice. Quantity prices apply only on a single shipment to one location. Other terms are stated in official price lists.*

**NATIONAL SAFETY COUNCIL**

425 N. MICHIGAN AVE. • CHICAGO 11, ILLINOIS

PRINTED IN U.S.A.

## A Homespun Safety Program

—*From page 56*

"And we can definitely notice an improvement in the work output and accident record since we've had the regular breaks and have been encouraging a break when the employee feels he needs one."

Many operators work in a two, three and four-member team at the flatwork ironer, shirt unit, and wearing-apparel presses. This is high-pressure teamwork, mostly with semiautomatic equipment, and is precision timed. A slip may cause a burn or hand injury.

Seminole has incentive pay for increased production and posts progressive team production percentages in the main work room. However, the efficiency percentage board always carries a safety reminder, such as: *No disabling accident in 14 months! Let's hold this record!*

"Whenever we notice a team getting careless," Olsen says, "we stop production, get the team together and sit down around a table and talk it out. We've found this method of immediately striking at the trouble much more effective than waiting for a scheduled meeting."

The Seminole safety setup has no formal safety committee, follows no set pattern as to meetings, rules, or penalties. It is more a simple procedure of securing employee cooperation, locating needs and then carrying through to see that corrections are made.

Four "safety musts" are constantly stressed:

1. Employees who report needed safety corrections are promptly rewarded.

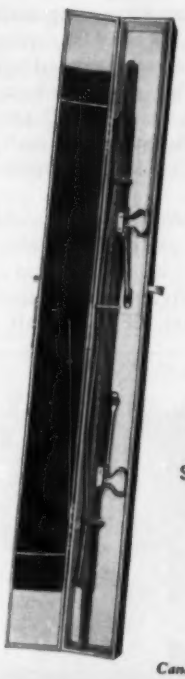
2. Violation of safety practices is brought to the offending employee's attention at once. If he is a member of a work team, the job is halted and the problem discussed with the entire team.

3. Employees are encouraged to take refreshment breaks twice daily or whenever needed.

4. Any employee who is ill or receives even a minor injury must report to his superior immediately.

"Ours is a sort of cooperative homespun safety program," Olsen says. "It operates with the help of our employees and our insurance carrier and gives us a good safety record as a bonus."

Circle Item No. 53—Reader Service Card



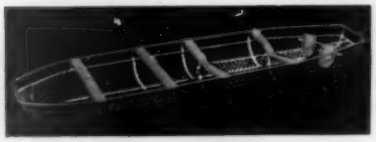
Convenient, Clean, Accessible!

**Junkin**

**STRETCHER CASE & KIT**

Junkin Stretcher cases provide a compact convenient place for storing the army type stretcher, blanket and first aid equipment. Protects from dirt and grime — saves valuable space. Available as kit or case only.

JUNKIN SPLINT-TYPE STRETCHER



Rigid construction. Patients may be carried vertically or horizontally, greatly reducing danger of moving from inaccessible locations. Canvas web-straps at chest, abdomen, thigh and calf, hold patient securely.

Send for descriptive literature.

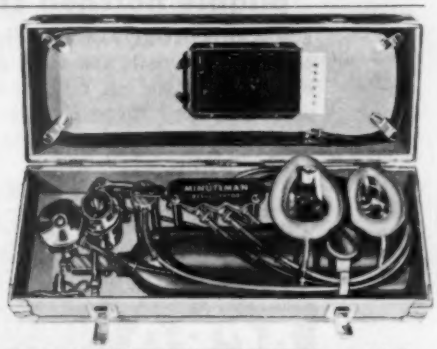
*Canadian Distributor: Levitt Safety Ltd., Toronto*

JUNKIN ENGINEERED SAFETY

**JUNKIN** SAFETY APPLIANCES
3121 Millers Lane, Louisville 16, Ky.

The STEPHENSON MINUTEMAN

**saves minutes that save lives**



**Here's the MINUTEMAN RESUSCITATOR in a nutshell:**

**SMALL LIGHT** 24½" x 8¾" x 7¾". under 30 lbs. with tank.

**VERSATILE** resuscitator, inhalator and aspirator, all in one instrument. With extra Midget attachment, the MINUTEMAN will resuscitate 2 patients and aspirate a third simultaneously.

**ECONOMICAL** operates 40 minutes with D cylinder.

**WIDE RANGE** pressures adjustable from Adult to Infant, with manual override when needed. Easily regulated to mixtures from 100% oxygen to 50% oxygen and 50% nitrogen from the air.

**SEND COUPON FOR FULL INFORMATION**

STEPHENSON CORPORATION
RED BANK NEW JERSEY
U.S.A.

Represented in Canada by Wilson & Cousins, Toronto

STEPHENSON CORPORATION, Red Bank, New Jersey

☐ Please send Minuteman Folder G-12

☐ Please send free bulletin "Breath of Life"

☐ Please arrange for demonstration

NAME

TITLE

STREET

CITY STATE

## Got a Noise Problem?

—*From page 37*

transmitted along rigid pipes, short lengths of rubber or flexible metallic hose may block that channel. Quieter rubber-tired wheels have replaced metal ones on many industrial trucks.

**Enclosure.** Sometimes a noise problem may look so complicated that the inexperienced analyst throws up his hands in despair. If an entire large automatic or semi-automatic machine seems to be a noise offender, sometimes it can be completely or partially enclosed to contain the sound. If not, enclosing the noisiest parts, such as gears, may whip half the problem.

**Isolation.** If an objectionable sound can't be eliminated or enclosed, its effects can sometimes be confined to a minimum area of the plant. In an aircraft plant, 200 women employees engaged in wiring operations on a mezzanine had been unnecessarily exposed to high-level machine noises. Erecting an insulated wall solved that problem.

**Acoustical treatment.** Reverberation of noises from hard surfaces, such as brick or plaster, may compound hazards. If so, acoustical plasters, tiles, sprayed-on compositions and other sound-absorbing materials will at least restrict the problem to original noise.

Where machines bolted directly to concrete or wooden floors turn them into sounding boards, resilient mountings usually minimize the effects.

**Medical controls.** Along with environmental controls, there's an equally important phase—medical controls. In some cases, the only practical way to reduce dangers of hearing damage may be the wearing of protective ear muffs or plugs by exposed employees. It's important that these devices be well fitted and comfortable; that plant foremen as well as employees be told why the equipment is necessary; and that rules be made and enforced regarding wearing of hearing protectors.

Audiograms should be used to evaluate the hearing of every employee, and should be made part of pre-placement procedures for future workers. Because some laws require the employer, in the absence of pre-employment audiometric measurement, to pay for a worker's accumulated hearing loss, such measurements may protect management from added liability—and protect employees from damage if the need for ear protection is discovered.

An audiometric program must be conducted under medical direction, and measurements must be taken by trained personnel.

Frequently hospitals, visiting nurse associations, or clinics have community hearing measurement facilities. Testing, however, may be done in a plant if examination rooms and equipment meet standards which will make them medically and legally valid. In any case, time should be allotted for individual evaluation and counseling with otologists as required.

Circle Item No. 55—Reader Service Card

**...with ACROFLEX, the pliable notched steel strapping**

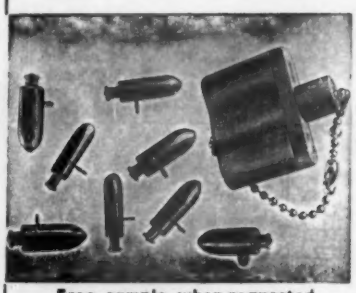
You'll find ACROFLEX as handy to have around your plant as nails and wire. ACROFLEX comes in 10 ft. lengths and can be bent by hand to conform to practically any shape needed. Illustrated above are only a few of the many possible uses of ACROFLEX.

**Get more facts FREE**

Complete information on ACROFLEX is contained in this folder. Write for your copy today. Ask for bulletin A-857.

*Territories available for qualified representatives.*

**ACRO** METAL STAMPING COMPANY
1901 North Buffum, Milwaukee, Wis.



**CUT DOWN NOISE**
WITH THE S M R
**EARSTOPPER**

Soft, comfortable, resilient, the SMR EAR STOPPER adjusts itself to all shapes, turns and movements of the ear canal. Tends to anchor itself in the ear. Has a long life and is reasonable in cost. Furnished in a plastic case. Forty-five cents per set in gross lots.

Free sample when requested on company stationery.

SURGICAL MECHANICAL RESEARCH INC.
1905 Beverly Blvd., L.A. 57, Calif.
SMR

## Pick Your Men

—*From page 49*

Identify Accident-Prone Employees?" The author is Frank J. Harris, U. S. Public Health Service. He concludes after much testing and analyzing that: biographical information may be more useful than personality tests; and the over-all life history is the key to selection.

Dr. Blum, writing *Industrial Psychology and its Social Foundations,* graphs the seven more prevalent personal factors contributing to accidents: faulty attitude, failure to recognize potential hazards, faulty judgment of speed or distance, impulsiveness, irresponsibility, failing to keep attention constant, nervousness and fear. Obviously, these factors—in addition to affecting a man's safety habits—would also be a pattern of his normal living.

Dr. C. A. Drake once presented a paper, "Testing for Accident Proneness," at the University of Minnesota before the American Psychological Association. He suggested that, where the perception level is equal to or higher than the motor level, the employee is relatively a safe worker; but where the perception level is lower than the motor level, the employee is accident prone, and his accident proneness becomes greater as this difference increases.

Dr. Wisely, in research on commercial bus drivers, found that repeated offenders have more unexcused absences and more violations of company procedure than those with good driving records.

Dr. Ross A. McFarland, associate professor of industrial hygiene, Harvard School of Public Health, wrote a book, *Human Factors in Air Transportation.* He recommends that psychological tests with cut-off points be used for airplane pilots. He found that perception and spatial relations are important in selecting pilots or mechanics and other personnel for the aviation industry.

These findings indicate more attention needs to be given to selection procedures, so the best possible employees can be hired. On an actuarial basis, the more productive, generally competent people we have working for us, the less likelihood that accidents will occur, because there will be fewer unsafe, incompetent acts performed.

With this thought, our firm developed standard selection procedures in 1953. Using tests, interviews and biographical forms, we now do a more thorough job of evaluating and placing people at all levels of our organization. At the hourly level we use these procedures:

1. Use of the application as a biographical report is, in effect, a test. Here we screen applicants on place of residence, age, family history, educational data and work history. These factors are checked.

2. The superintendent and personnel manager interview at the local level. They try to establish answers to three factors: general background, educational and technical background, and work history. For this, we use a manual to guide the interviewer.

3. The Minnesota Paper Form Board Test is given. We don't use extensive tests at this level, because we


Circle Item No. 58—Reader Service Card

AMAZING NEW URETHANE FILTER!

WATCHEMOKET
Resp-R-Aid
MASK

for breathe-easy protection against nuisance dusts . . .

**Entire mask is a filter** – more than double the filtering area of most other masks . . . urethane foam reduces inhalation resistance, makes breathing easier.

**3 to 4 times lighter** – entire mask weighs hardly more than an ounce . . . comfortably hugs contours of the face.

**Outlasts ordinary filters** – urethane foam is washable, reusable . . . it's non-allergenic, won't absorb moisture, won't mildew or deteriorate . . . it's tough, durable and stable.

**Inhale and exhale valves** mounted on chassis.

*See your EYE SAVERS Dealer or write*

*Quality Eye Protective Equipment* *Made by the Leaders in Plastic*

*See your local Eye-Savers Dealer or write . . .*

WATCHEMOKET OPTICAL CO., INC.

232 West Exchange St., Providence 3, R. I. *Throughout Canada* • LEVITT-SAFETY LIMITED

Circle Item No. 59—Reader Service Card

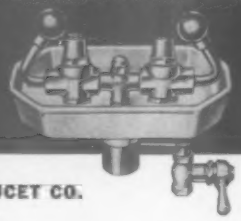
Circle Item No. 60—Reader Service Card

*IN EMERGENCY* . . . contaminated eyes are instantly cleansed of dangerous particles and chemicals by *controlled* water streams from HAWS Emergency Eye-Wash Fountains. This "split second safety" before medical aid arrives can mean the difference between temporary eye irritation and permanent eye injury! HAWS will provide emergency facilities best suited for your safety program—minimizing hazards, reducing claims, lowering insurance costs. Get the facts by writing today for illustrated literature!

**HAWS EYE-WASH FOUNTAINS**

MODEL 7100
(old model 8930)

Basic eye-wash model with enameled iron bowl; quick-opening valve for manual operation; adaptable to treadle operation; chrome plated brass water pressure regulators and twin fountain heads. Wall mounted and pedestal models available.



HAWS

**HAWS DRINKING FAUCET CO.**
Since 1909
1443 FOURTH STREET
BERKELEY 10, CALIFORNIA

EXPORT DEPARTMENT: 19 Columbus Avenue, San Francisco 11, California, U.S.A.

the right work clothing for the job . . .
from **WORKLON**®
America's first resource for special purpose industrial apparel

YOU SAVE up to 93%*

*Replacement costs compared to utility work clothes when used in corrosive areas.

You can depend on Worklon for the precise apparel to meet your most precise job requirements. Choose from the nation's finest selection of ACID- and CAUSTIC-RESISTANT, LINT-FREE and STATIC-FREE garments for both men and women. Investigate Worklon quality apparel of Dacron, Dynel, Orlon and Nylon. Write for complete information including laboratory reports and test data. All FREE — no obligation.

**WORKLON**®
NEW YORK • LOS ANGELES
Dept. NS-10, 253 West 28th Street, New York 1, N.Y.

feel the job of upgrading must come from the top down. This particular test is effective screening for I.Q. for spatial relations (how the individual visualizes activity—relating to blueprint-reading, trouble-shooting on electrical or mechanical equipment, and visual conception of any situation around a mine).

This test doesn't require ability to read. Education required also has nothing to do with results from this test. It gives us an excellent yardstick to measure mechanical and job perception. Anyone placing over 39 in this test should be average among our employees and should be a safe workman.

4. Committee-type selection picks the applicant. However, the superintendent may overrule, and his findings are final.

5. We use the medical examination as one requirement for screening. This includes back and lung Xrays, if possible, and gives us a permanent record of the physical condition of the applicant at date of hire.

6. I want it clearly understood that none of these procedures applies to people returning from a group of hourly employees.

And I strongly suggest that you do nothing in this area until you consult qualified personnel psychologists.

Now that we've accumulated enough data to study validity of these procedures, we're making a detailed statistical analysis of the relationship of test scores to job performance measures, including safety record. Even without these precise data we're convinced that better selection techniques have paid off.

Since using these procedures, our accident rates have gone down and our production up. We can't attribute this merely to use of newer, automatic equipment. In fact, this high-speed equipment and unfamiliar methods of operation have possibly increased chances for accidents.

We started our program at the top, rather than at the bottom levels of the organization. The firm decided initially to assess supervisors and managers on predictable job behaviors and their potential for promotion.

We felt we should do a better job in selecting and placing those in leadership positions and able to influence work attitudes. Personnel Research and Development Corpo-

ration, Cleveland, O., made suggestions. It was evident that, if our safety record and efficiency were to improve, we'd have to have people who'd take the time and had the ability to watch work habits—especially unsafe work habits.

It was important that we start a program to obtain the highest caliber employees available for our supervisory and management personnel.

Currently, all our vice-presidents, department heads, engineers and superintendents have had personal assessments made by qualified psychologists. We also had analyzed a sample group of our salaried people in all job classifications including section foremen. With these groups we use a more intensive analysis and more difficult tests. Our consultants make the evaluation, including interviews and life history analysis.

Recently, we merged with another company. The Personnel Research and Development Corporation tested all salaried personnel—section foremen, clerks, accountants, all the way up to top officials, including the president.

We're now establishing three sets of norms: one for first and second line supervision, mechanics and mechanical foremen; one for accounting employees and other office personnel; and one for department heads at the superintendent level.

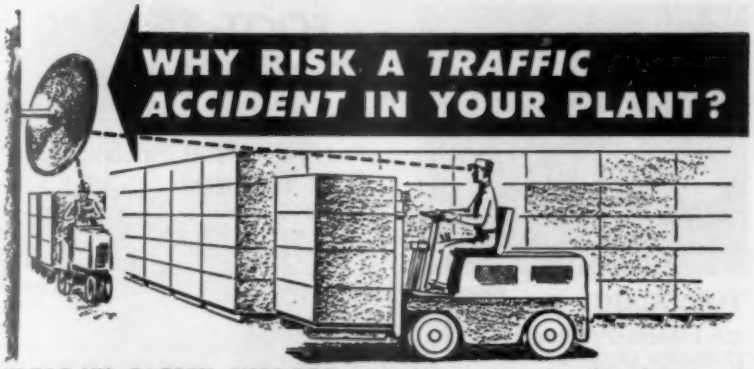
In the future, an industrial psychologist will evaluate all employees of this corporation down to and including superintendents. Workers from this level to the last labor grade applicants in the salaried group will receive knock-out tests by our personnel. As an employment requisite, it will be necessary that they at least equal the average of our own workers in the same labor grade.

Our procedure for salaried people from the lowest level to the superintendent in employment is:

1. We use the application form in exactly the same manner as with hourly employees.

2. The tests are different: (a) For clerical help we use the Classification Test developed by Western Reserve University for general intelligence. WRU also devloped a test known as Numbers Comparison to determine accuracy in clerical work as well as speed. (b) For supervisors in any dement we use the Minnesota Paper Form Board Test for the same reason we use this test with the hourly em-


Circle Item No. 62—Reader Service Card




**KLEAR-VU SAFETY MIRRORS** are the answer to the dangerous blind corner problem in your plant or warehouse. They are also adaptable for outdoor use in your parking lot, loading dock area or other points where traffic converges.

Mounted at cross aisle intersections, entrances and exits at a height of 8 to 10 feet, Klear-Vu Safety Mirrors clearly reflect oncoming intersection traffic to both power truck operators and pedestrians.

Available in either convex or flat glass styles, the mirrors are easily installed and quickly adjustable to any desired angle.

| Style | No. | Dimensions |
|---|---|---|
| Circular Convex Glass | 120 | 12" dia. |
| Circular Convex Glass | 180 | 18" dia. |
| Circular Convex Glass | 240 | 24" dia. |
| Circular Convex Glass | 300M.R. | 30" dia. |
| Circular Convex Glass | 360M.R. | 36" dia. |
| Flat Glass Rectangular | 918 | 9"x18" |
| Flat Glass Rectangular | 1640 | 16"x24" |

*M.R. indicates metal rim.*

*Special sizes made to order. Polished flat metal mirrors available.*

**LESTER L. BROSSARD CO.**
540 N. MICHIGAN AVE., CHICAGO 11, ILL.

*Write for Bulletin.*

For Every Need . . . Every Budget!
MAKE YOUR OWN CHOICE!
There are complete lines of Carpenter Emergency Lights for all basic needs . . . the widest choice of powerful, dependable, durable lights available.
WARNING LIGHTS: Vehicle and stationary types . . . colored, flashing, oscillating, revolving!
HANDLIGHTS: Powerful "Portalites" with the famous extra-wide coverage! Rechargeable or dry battery types.
VEHICLE LIGHTS: Searchlights, floods, colored signal and warning lights for all service and emergency vehicles.
PANIC LIGHTS: Watchmaster "Automatalites" automatically guard against light failures. All types including explosion-proof, dust-tight, and remote control.
Your Guide to over 100 Emergency Lights . . . the Carpenter Catalog. Write for copy.
CARPENTER MFG. COMPANY
613 Bradley Street, Somerville 45, Mass. Telephone MOnument 6-4300




Circle Item No. 63—Reader Service Card

Circle Item No. 64—Reader Service Card

FOOT-TOE-LEG
Protection by "Sankey"
(left) Improved FOOT GUARD
(Style #200 illustrated)

FOOT GUARDS consist essentially of a metal shield to be worn over the shoe whenever the foot is in danger of being either crushed or cut. The metal shield is designed to furnish a maximum amount of protection to the entire foot—not merely to the toes alone, but also to the instep—against hazards from falling, rolling or flying objects, or from accidental tool blows.

TOE GUARD →

fills a demand for toe protection in occupations where hazards injurious to toes exist. They fit any shoe, afford maximum toe protection, and like the foot guards do not encase the toe to the discomfort of the worker. (Style #700 illustrated.)

Fibre Instep & Leg Guards

These guards provide protection for the instep, shin and knee. Light weight, absolute freedom of leg motion, comfort and utmost protection are provided by the leg-contour shaped "Sankey" fibre guards. Guards are used when handling pulpwood, clearing brush, cane cutting, and numerous factory operations.

*For more information write today*

ELLWOOD SAFETY APPLIANCE CO.
225 SIXTH ST.—NSC ELLWOOD CITY, PA.

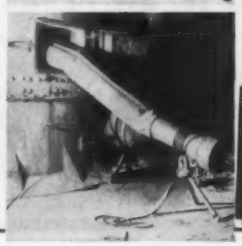
*Drive out*
FOUL AIR
*Blow in*
FRESH AIR
*with Coppus Type A Ventilator*

Assure greater safety, comfort for workers . . . get greater efficiency.

Drive out dangerous fumes, gases, stagnant or hot air from boilers, cable manholes, tanks, vats and other confined places. *Supply fresh air continuously.*

Send now for further information. Coppus Engineering Corporation, 121 Park Avenue, Worcester 2, Mass.

MANHOLES made safe for workers' entrance within minutes.



BOILER AND TANK INTERIORS cooled by Coppus. Fresh air supplied continuously.

ANOTHER COPPUS "BLUE RIBBON" PRODUCT

ployees. However, the grade which they must receive (or they'll not be considered for the position of supervisor) is higher than that for hourly employees. Again, this norm is established by our testing program.

We also give: The Army General Classification Test for general intelligence, and the Personnel Research Classification Test as a check; A test known as "How to Supervise" to check general knowledge of labor relations; The Purdue Mechanical Aptitude Test to determine mechanical aptitude.

3. An interview is again held with salaried personnel by using a manual, if necessary, to determine the over-all attitudes and life patterns.

4. Committee-type of selection is again used, but in the case of supervisors the general manager is the deciding factor in case of disagreement between the personnel department and the local supervisory group.

But we also feel that elimination of poorly qualified applicants at all levels, and better placement of those we employ, will gradually give us a better group of "solid citizens," whose attitudes and performance will reflect in safer, more productive operation.

---

## No Rope Tricks

*—From page 40*

bushels of grain, contrasted to an average of 475,000 bushels during the life span of Manila rope.

Dacron also made possible the use of bigger scoops, reducing what was once a six-hour job for 16 men to a four-hour job for 10 workers. And the cost of unloading 1,000 bushels of grain dropped from $7.50 to $5, Rice-Powell officials figure.

American Bridge Division of U. S. Steel, Pittsburgh, Pa., ran tests on the tensile and impact strengths of nylon before standardizing on nylon rope for bridgemen's safety lines.

Some cordage makers also are producing webbing of nylon and Dacron polyester fiber for heavy-duty slings and nets. One construction involves a core of parallel filament yarns of nylon or Dacron, protected by a woven outer covering. Another variety, known as slotted nylon webbing, is used for cargo nets by the U. S. Navy and Air Force.

## Tension

—*From page 54*

the things all of us can do for ourselves. Too much of what has been said and written about resolving tensions has been pointed toward what we can do for others and conversely what others can do for us. More must be said about what a person can do for himself.

In the final analysis, no one else can live our lives for us. They can only provide a favorable climate. Facing up to our problems, working out solutions, and taking our individual responsibility are excellent ways to resolve the effects of emotional overlays of anxiety and fear.

I say this because there is no antidote for anxiety as easy to take as the wonder drugs which conquer physical disease. Antibiotics work in spite of us. However, and this is very important—we can all learn to react to problem situations with courage and cheerfulness.

Anxiety feeds on and grows almost explosively on such childishly immature defenses as temper outbursts, sulking, disregard of or exaggeration of facts, evasion of responsibilities, failure to accept and live the roles one is assigned in life, and above all, self-centeredness. These are things which bear a proven relationship to accident proneness.

The late Dr. Schinder established the relationship between emotions and the threshold of tension tolerance that set the tolerance or operating range we have been discussing. A surly, sulky, self-pitying, dour, or fearful mood lowers the tolerance range and the level of performance in much the same way as it lowers the threshold of physical pain and increases physical tension towards the intolerable. Let me point out again that practically all of these things are the handmaidens of self-centeredness.

Courage, the will to do, cheerfulness and a touch of humor coupled with a sincere interest in others, are the best antidotes for the overlay of anxiety and/or fear which depress the level of performance and decrease tolerance for tension.

Mark you, I am *not* advocating "pollyannaism" or do-gooder types

Circle Item No. 66—Reader Service Card

get
modern
eye protection
WITH JONES
FULL VISION
VISOR GOGGLES

Send for Illustrated Catalogue for Models Listed Below

| | |
|---|---|
| CLEARVIEW #1 | Clear Lens |
| GLARESTOPPER #1A | Light Pale Green |
| GLARESTOPPER #2 | Pale Green |
| GLARESTOPPER #2A | Grey |
| GLARESTOPPER #3 | Dark Sage Green |

*Choice of 18 hole or Screened Port ventilation*

ONE-PIECE SHATTERPROOF PLASTIC LENS
(METHYL-METHACRYLATE)

CALL YOUR JOBBER OR WRITE TO:

JONES AND COMPANY 861 Broad St., Providence 7, R. I.

Seiberling
INDUSTRIAL GLOVES

EXCLUSIVE PATENTED
FIRMGRIP®
SAFETY GRIP
MOULDED INTO FINGERS
AND PALM

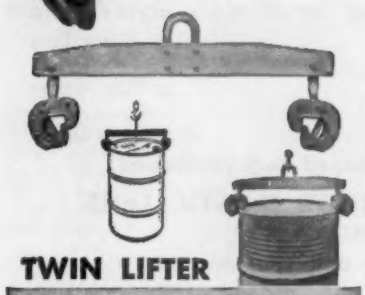
Longer wear in every pair! Available in various sizes, gauges, lengths, colors and surface finishes. Natural rubber or genuine Dupont neoprene latex. Contoured fingers for more comfort, better fit.

SEND FOR CATALOG NO. G-6 of complete glove line

FREE TEST OFFER! Write us on your firm's letterhead for sample gloves for test purposes.

SEIBERLING LATEX PRODUCTS, New Bremen, Ohio

YOUR BEST MOVE . . . MOVE
with MERRILL
MATERIAL HANDLING DEVICES



For Interesting Information write

MERRILL BROTHERS

56-28 Arnold Ave., Maspeth, N. Y.
3-R-6

of action. Superficiality or falseness only adds to the problem. I am talking about sincere actions based on realism that acknowledges our human vulnerability.

It is normal to live under some tension, and, as I've reiterated, be at times dissatisfied, angry, or depressed in our attempts to work, live, achieve, and maintain our self-respect.

Occasionally that is the only way we can resolve a temporarily intolerable overlay of anxiety and/or fear when under pressure for reduction of tension in accordance with Fechtner's Law.

In fact, as the late Dr. A. A. Brill so ably pointed out in his monumental *Psychoanalytic Psychiatry,* there is little difference as far as the process of adjustment is concerned among the psychotic, the neurotic, and the so-called normal. All are trying to keep their anxieties and fears under control. All are trying to reduce the anxiety and fear overlay of tension which is constantly accruing within them.

I repeat, it is not the fact that tension exists that counts; it is the nature of it and how we resolve it. The schizophrenic who withdraws from reality uses this as his resolution of the intolerable tension overlay of anxiety and/or fear, just as psychosomatics use other modes of resolution, injurious though they may be.

Now let's turn our attention to some of the so-called normal ways of resolution—the practical, usable things that gain for us the benefits of tension and which offset or alleviate the injurious potentials of intolerable tension overlay. The greatest of these benefits is freedom from accidental injury both on and off the job.

No doubt you are curious about these things. Are they completely new wonder-working ways to solve our problems? Let me repeat: There is no antidote for anxiety and fear equivalent to a wonder drug.

Many of these are old familiar ones—so familiar that we fail to recognize their true nature and use in resolving tension problems, thereby resulting in their creating what we are seeking to correct. They are the things our forefathers

PUMPS most anything*
THAT POURS!

*A few exceptions.
Write for approved list.

Take the risk and waste out of liquid transfer! This rugged Tokheim Hand Pump, with alternate diaphragms, handles most anything from diesel oil to acetates—safely, quickly, without spillage. Eliminates fire hazards and accidents, aids good housekeeping. Accelerates production, too. Pumps 20 gallons per 100 strokes. Get list above from your Tokheim dealer, or write direct today.

*General Products Division*
TOKHEIM CORPORATION
DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT SINCE 1901
1670 Wabash Avenue Fort Wayne 1, Ind.

Subsidiaries: Tokheim N.V., Leiden, Holland—GenPro, Inc., Shelbyville, Ind.
*Factory Branch: 475 Ninth Street, San Francisco 3, California*
In Canada: Tokheim-Reeder of Canada, Ltd., 205 Yonge St., Toronto, Ont.


Circle Item No. 68—Reader Service Card
Circle Item No. 69—Reader Service Card

# END GRIPES
## about terrazzo floors

# POLI-SEAL
POLISH AND SEALER

**provides a sealed surface with a sheen!**

Here's why you'll cut maintenance costs with new Poli-Seal: a combination sealer and polish, it does two jobs at once! Simply apply and buff. The result will be a hard, mirror-like finish, tough and water-resistant, that seals the surface. When traffic lanes appear, they are easily patched. Try Poli-Seal! You'll be delighted, your floors will last longer and look better . . . and you'll save money!

The Man Behind the Huntington Drum can help you solve your maintenance problems Ask for his help . . . it's yours without any obligation.

**HUNTINGTON LABORATORIES**
HUNTINGTON, INDIANA
Philadelphia 35 Pennsylvania • Toronto 2, Ontario


used with so much success—the old-fashioned built-in tranquilizers that strike at causes and are not aimed at temporary relief of symptoms. True tranquility comes from emotional balance which is achieved by proper use of tension, not by its elimination.

### Practical Remedies

Things we can do to keep our tension tolerance and that of others at a maximum:

Establish firm but understanding discipline.

Provide good supervisory control through prompt decision, action, and guidance.

Maintain a good sense of humor to temper emotional strife.

Things we can do to help others keep their tension tolerance at a maximum:

Select a person's job to match his tension tolerance range as well as his physique.

Supply adequate know-why and know-how through training.

Develop and maintain good safety attitudes.

Listen understandingly while he "talks out" his problems.

Things we can do to keep our tension tolerance at a maximum:

Play the roles assigned us on the job and in life.

Learn to understand, live with, and accept authority.

Face up to a problem. Make a plan, and take action courageously and cheerfully and without delay.

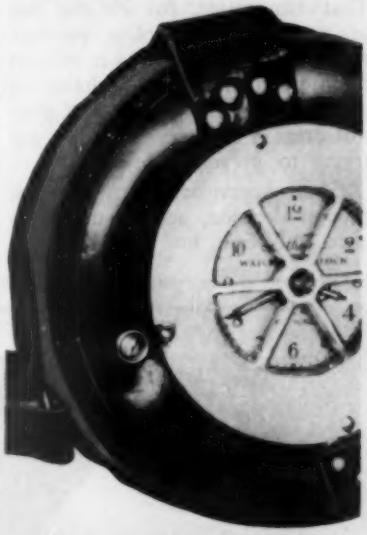
Now let us analyze these points. *Firm but understanding discipline* benefits both supervisor and employees.

By discipline, I mean planning, control, and orderly conduct of the job according to established practices, with fair, impartial enforcement. Lack of positive direction creates intolerable tension in both supervisor and employee. Uncertainty as to what is expected of us and the criteria of good performance breed fear and anxiety. In a "captive" working environment we need the assurance that those in charge are operating effectively.

Sure, folks gripe and fight against authority, but many times they're just testing to make sure it's there and operating.

It's such discipline that keeps us


# reduce risk



## of fire and theft with the Lathem WATCHMAN CLOCK

. . . underwriter-approved and in your choice of two models.

Protect your property, your investment . . . reduce your insurance rate, the risk of fire and theft with your watchman recording his rounds on a Lathem Watchman's Clock.

The Vanguard permits you to keep three days registration on a single dial . . . eliminates the need for a change of dial over weekends and holidays. The economical Sentry carries a standard 24-hour dial. Both feature the same precision workmanship, and can be furnished with up to forty station keys. Your Lathem Watchman's Clock has a leather carrying pouch, 8-day jewelled movement and is housed in a hermetically sealed, shock-proof aluminum case. Write today for full information.

**LATHEM**

**Lathem Time Recorder Company**
*72 Third Street, N. W., Atlanta, Georgia*

Gentlemen: Without obligation, please send me full information about Lathem Watchman's Clocks, including prices.

NAME_____
COMPANY_____
STREET_____
CITY_____ ZONE___ STATE_____

working at optimum tension for good, efficient and safe performance.

I said *understanding* discipline. That's important, for it's the key as to whether discipline resolves tension overlay or creates it. All too often the concept of discipline as punishment and authoritarian control creates the very thing we are trying to prevent.

Good supervisory control through prompt decision, action, and guidance and firm but understanding discipline are Siamese twins. What I have said about discipline applies with equal force to good supervisory control.

Lack of prompt decision creates tension overlay, as do delayed action and guidance. A poor decision is often better than none. Action and guidance are effective only if given when needed.

Let me illustrate. We all know that condoning unsafe practices by not correcting them builds habits that lead to injury when the employee becomes apathetic to the hazard and loses his alertness. The wrong way becomes the right way.

Here's something new—Siamese triplets:

*Adequate know-why and know-how through training.*

*Facing up to a problem (making a plan) and attacking it courageously and cheerfully, without delay.*

*Matching the job and tension tolerance range of the individual.*

Knowing why and how to do a job as the result of good training gains the benefits of tension and prevents a build-up to the intolerable point. It keeps us operating within our tension tolerance range, assuming that the job has been selected with that person's range in mind. The benefits of attacking it courageously and cheerfully have already been made clear.

These two are also interdependent:

*Playing the roles assigned to us on the job and in life.*

*Learning to accept, live with, and understand authority.*

More anxiety and fear with their tension overlay arise out of rebelling against the roles assigned us and not accepting authority than almost anything else. These we must learn to do. Moreover, those in authority must play their parts and do the things people associate with them or they create tension trouble for both themselves and those they supervise. A boss who tries to be "one of the boys" to the point where he nullifies the accepted ideas of a boss' role is out of step with reality just as much as the employee who tries to live the role of a big shot when he isn't.

*Developing and maintaining good safety attitudes* is a prime tool in offsetting the causes of anxiety and fear, for it provides that sense of security and well-being that helps keep our tension tolerance at its highest. Emotional overlay of anxiety and fear that can lead to panic with our sensory perceptions ceasing to function temporarily is the biggest thing good safety attitudes have to overcome.

Note in this outline how the emotional overlay which results from passing emotional crises rises to great heights in panic situations,


Circle Item No. 72—Reader Service Card

USE THE MODERN Safety Drill Table

Saves fingers! Saves time! Replace your present drill table with the Modern Safety Drill Table—then drop in the work and drill. Eliminates dangerous, hand held, small jobs. Handles odd, irregular shapes and sizes without V-blocks, clamps or parallels. Sizes for every need, with diameters from 8" to 27½". Guaranteed to save its cost in labor alone in 6 months. Write for literature.

FREE TRIAL OFFER
*Write for details!*

105

MODERN MACHINE TOOL CO.
2005 LOSEY STREET JACKSON, MICHIGAN

HAVE YOU TRIED TECLENE™ FOR CLEANING FLOOR TILE?

*TECLENE CLEANS WITH SOLVENT–DETERGENT ACTION*

• TOOLS • MACHINERY • CONCRETE
• FLOOR TILE • PRODUCTION PARTS
• AUTO & BUS PARTS • TRAILERS
• • • *WATER RINSABLE*

PRODUCTS FOR HOME & INDUSTRY TECT, INC NORTHVALE, N. J.

producing intolerable tension which a good safety attitude must offset and overcome.

Listening understandingly while he "talks out" his emotional problems. This is what Dr. Harry Levinson of the Menninger Foundation calls "emotional first aid." Others call it verbalization. Dr. Levinson's simplified rules are excellent:

1. Don't talk—listen. Let him tell his story his own way without interruption.
2. Don't belittle the problem.
3. Don't be impatient.
4. Don't provide the answer. Unless the troubled person is too ill or upset to do so, he must come to his own decision. When it is obvious that professional help is needed, have him try his doctor or minister.

Now let's sum up our discussions. We have taken a look at tension, what it is, how the "demon" works and how we can derive its benefits and avoid its dangers. We have found that the solution to our problem has been not in eliminating tension as such, but in obtaining the benefits of tension in performance and living without incurring the possible penalties and accidents which result from anxiety and fear becoming intolerable.

Today we are probing the outer reaches of space and we are delving into the inner reaches of the atom's nucleus. Unless we take time to study man himself, his tensions, anxieties, fears, and motivations, it may all be fruitless. For when we arrive in outer space or when we solve the mysteries of nuclear power, reaping the benefits will depend upon how well we have mastered and disciplined ourselves.

As General deGaulle has so succinctly phrased it, "Yes, we may well reach the moon, but the greatest distances man has yet to master still lie within himself."

## References


Brill, Dr., A. A.: "Lectures on Psychoanalytic Psychiatry," A. A. Knopf, 1946.

Bunch, M. E.: "The Influence of Electric Shocks for Errors in Rational Learning." *Journal of Experimental Psychology*, 1937, 21.

Courts, J.: "Relation Between Induced Muscular Tension and Performance." *Journal of Experimental Psychology*, 1939, 25.

Kitson, H. D.: "A Study of the Output of Workers Under a Particular Wage Incentive." *University Journal of Business*, 1922, 1.

Levinson, Dr. H.: "New Way to Fight Tension." *This Week Magazine*, March 15, 1959.

McGeoch, John A.: "The Psychology of Human Learning." Longmans, Green and Co., 1942.

Stuffacher, J. C.: "The Effect of Induced Muscular Tension." *Journal of Experimental Psychology*, 1937, 21.

Ubell, Earl: "Mental Ills Not Due to Modern Life." *New York Herald-Tribune*, July 26, 1959.

Van Dellen, Dr. Theo. R.: 'If You Are Depressed, Shift Gears, Slow Down." *New York Herald-Tribune*.

Wollstein, Dewey H.: "Escape From Tension by Living Life." *Masonic Messenger*, June 1959.


## Suggested Supplementary Reading


Robinson, Leonard Wallace: "Make Your Tensions Work For You." *Coronet*, November 1959.



Circle Item No. 74—Reader Service Card

*Check the original*

**QUICK RELEASE BUOYANT WORK VEST**

*for Better Design, Performance, Safety*

**FLOATS WEARER VERTICALLY**—pads support chin and back of head out of the water.

**QUICK RELEASE ROD** pulls out easily, disengages all fasteners.

**HANDY BELT SNAP** prevents vest from floating off wearer.

**LIGHT, NOT BULKY**—just 34 oz., vest is only 1¼" thick.

**CAN BE LAUNDERED** like work clothes. Vinyl plastic unaffected by most oils, acids, or perspiration and it is odorless.

*For details and prices write:*

**SAFETY FIRST SUPPLY COMPANY**

425 Magee Street, Pittsburgh 19, Pa.

**"VEKI" SAFETY CAP**

*Designed for*
*GREATEST INDUSTRIAL SAFETY*

VEKI's larger, roomier, elastic-type snood is designed specifically for enclosing more hair than any conventional type cap . . . full protection for all hair all the time! Front of twill. Back is made of mesh—can also be had in solid or flame-proof materials. Navy blue, and brown. Adjusts to all head sizes. Descriptive literature on request.

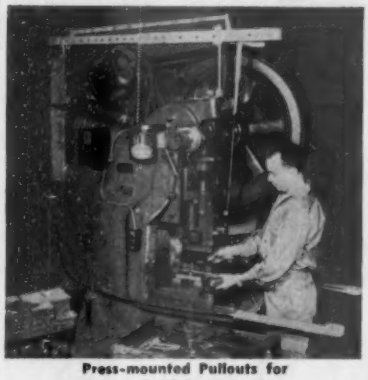
Manufacturers and distributors of a complete line of safety clothing and equipment. Write for information regarding your needs.

K-I **KENNEDY-INGALLS, INC.**

3735 NORTH 35TH ST., MILWAUKEE 16, WISCONSIN

# SAFEGUARDS

**for ANY**
**Punch Press Safety Program**



Press-mounted Pullouts for Safety & High Production

Pre-fab. Die Enclosure Material for a quick low-priced Die Enclosure Program

Traveling Barriers for Automatic Dual Protection

Whatever your preference in press guards, let Safeguard help solve your problems.

For information on—

1. Pullout Guards
2. Electronic Monitors (Insures the use of pullout guards)
3. Individual Die Enclosures
4. Adjustable Die Enclosures
5. Fixed Cable Guards (For no hands in the die feeding without enclosures)
6. Traveling Barrier Guards
7. Riveter Guards

Write or call today.

**SAFEGUARD Mfg. Co.**

Woodbury, Conn. Congress 3-3385


## We Need Each Other

*—From page 33*

ing of growing uneasiness among many of our members. Invariably, there are some calling for "shut it down," or "yank it out," or "refuse to work it."

Our members are entitled to know whether they will be facing additional radioactive risk by coming to work. They and their union must not be kept in the dark in these matters.

I consider it a responsibility of the company that contracts to install such devices, and the government which licenses them to use radioactive material, to see that the facts are made known. These are not military secrets, and you don't banish fear and distrust by keeping people in the dark.

Labor-management cooperation in the field of industrial safety is particularly vital in this period of our history, when relations between these parties are deteriorating in other fields. I think we need each other, and we'd better learn to get along together.

As bitter as have been some of the disputes I've had with some corporations, I'd rather deal with the worst of them than with some commissar who would make all the decisions for both of us.

My impression of Khrushchev is that he is convinced our system of free unions dealing with private employers is bound to crumble. He thinks it will happen as a result of the built-in conflicts of our system.

I happen to disagree. I still look on this type of conflict as a climate for progress and education. An atmosphere of debate and disagreement and free discussion is essential to stimulate the mind. At the same time, we must retain a sense of balance—a sense of what is bedrock to our civilization—that we have more in common than in conflict.

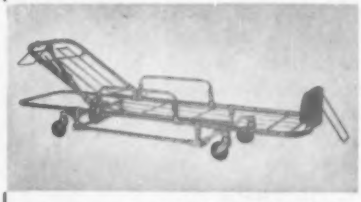
It is in the field of industrial health and safety where free labor and management can demonstrate that they share a humane concern, more compelling than profit or production, for the well-being of the individual.


# WASHINGTON

**finest quality COTS and STRETCHERS for emergency use**

• Washington's complete line of ambulance cots, stretchers, cot fasteners and other emergency equipment has featured the finest craftsmanship and highest quality in the industry, for over 33 years! First aid and rescue squads, fire departments, factory hospitals and first aid rooms have always depended on Washington for their complete needs. Washington "safety engineered" equipment is fully guaranteed —gives you the best for the same price as ordinary equipment.

MODEL 54-L ELEVATING COT—A Washington exclusive design. Elevates to full hospital bed height, yet lowers to only 9½" high! A perfect cot for vehicles with limited head room and overhead hanging stretchers. Here's all the advantages of an elevating cot — plus extra head room when lowered.



MODEL 21-L LOW COT—Only 8¼" high! A really low cot for cars with less head room or with overhanging stretchers. Another Washington EXCLUSIVE design, to meet changing car conditions.

MODEL 11 FOLDING STRETCHER—Lightweight and rugged, folds to 3¼" high. Ideal when an extra stretcher is needed in a hurry!

See your jobber or write for FREE catalog.

WASHINGTON
Products Company
Washington Court House, Ohio

EYE WASHING FOUNTAIN

SAVE EYES!

Leading industrial doctors advise immediate washing with plenty of running water as the best first aid treatment for any chemical in the eyes. Records prove that washing with water for ten minutes or more, close to the accident, is necessary to reduce or eliminate eye damage.

Forehead operation leaves hands free to open eyelids so water can be directed wherever chemicals might be lodged. Sanitary white baked enamel bowl is resistant to most fumes.

Over 500 industrial plant installations have been made to date.

*Write For Details.*

VALVE Chain Operated Quick Action Self-Closing

NEW EMERGENCY SHOWER

The B & A Shower is the quickest and most satisfactory way to saturate a worker with gallons of water the instant an accident occurs, to prevent a disfiguring burn—even a fatality.

Special shower head, no holes to clog—can be used where unfiltered water prevails.

*Write For Details.*

GLASS SLIVERS AND CHEMICAL IN EYES!

DISFIGURING FACIAL CUTS AND BURNS!

CUTS AND CHEMICAL BURNS ON ARMS AND BODY!

THIS HAPPENS WHEN UNPROTECTED GLASS BOTTLES ARE BUMPED

NEW LOW COST B & A SAF-T-BAGS

are widely used for the safe handling of glass bottles containing harmful chemicals; also the storage and recovery of expensive serums, biologicals, and other costly products.

Painful cuts, disfiguring burns, loss of eyesight, or even a fatality, do result from corrosive liquid splash and flying glass when unprotected bottles shatter.

*Write For Details.*

5 PINT
1 GALLON
5 GALLON

BENSON & ASSOCIATES, INC.

P. O. Box 7542, Dept. N.S., Chicago 80, Ill.


## Small Operation, Large Hazard

*—From page 21*

gleans from reports. He is responsible for consultation on safety problems, purchase of safety equipment, aiding in the preparation of operating instructions on new products and processes, accident records, safety bulletins, safety publications, fire prevention, and for a wide assortment of other functions related to safety.

Helping him in this vital undertaking are committees which parallel closely the organization of the entire Technology Department and which reach every worker in every phase of every operation. At the top of his list are two advisory committees: one for the Metals Research Laboratory, consisting of administrative assistants; and the other for the Product and Process Development Department, consisting of group managers.

The safety administrator, chairman of both of these groups, calls periodic meetings. Since they are essentially policy groups which function on behalf of management in supervising accident prevention, the advisory committees devote their efforts to reviewing safety experience, acting on reports of safety investigations and answering questions of policy.

At the divisional level of operations, safety is entrusted to steering committees, two for the Metals Research Laboratories and one for Product and Process Development. To assure coverage of all phases of operations, members include section leaders, technical men, tech-

"Here it is, 'Live electrical equipment fires in motors, wiring, transformers . . .' "


Master PADLOCKS

FOR PERSONNEL AND PROPERTY PROTECTION!

- Switch Boxes
- Classified Areas
- Explosives
- Tool Storage
- Gates
- Chemicals

Famous Master Laminated Padlocks

Multiple steel plates . . . stronger than a solid block! Genuine brass-cylinder, pin-tumbler security. No finer padlock protection.

Stainless Steel Combination Padlocks

Double-wall construction . . . 3 number brass locking mechanism. Available with "Key-Control" — one control key opens all locks.

Special Long or Short Shackles

For switch boxes, chains, truck or freight car doors, and other uses where special shackle lengths are more desirable.

Speedy Service on Keyed-Alike and Master-Keyed Sets

Master's Service Department is geared for fast delivery . . . in emergencies, special orders are on the way within hours!

*Write for FREE catalog*

Master Padlocks

EVERY ONE AN OUTSTANDING VALUE

Master Lock Company, Milwaukee 45, Wis.

*World's Largest Padlock Manufacturers*

nicians, group foremen, building technicians and hourly workers. Among the duties of steering committees are:

1. Action on and solutions for safety problems in their division.

2. Reference to the advisory committee of problems concerning the Technology Department as a whole.

3. Discussion of disabling, near-serious and medical-care accidents to formulate means of preventing occurrence or reoccurrence.

4. Discussion of a monthly safety objective and determination of action needed to cover this objective.

5. Preparation of plans for safety campaigns and publicity stunts.

6. Appointment of inspection committees to cover unsafe conditions and practices.

The two or three members of the safety inspection committees are appointed each month by the chairman of the steering committee. They are empowered to make general inspections covering housekeeping, guarding of machinery, working area congestion, eye protection, new equipment, personal equipment, unsafe procedure and just about every other phase of safety present at operational scenes.

The building foreman accompanies the inspection committee, and together they prepare reports and submit recommendations for corrections of whatever unsafe conditions or practices are found. It is the responsibility of this committee to see that corrections are made by the building foreman.

While Union Carbide Metals finds its formal organization provides a solid framework for safety, the company realizes the committee system functions properly only when individual members appreciate that their chief task is to represent their colleagues and to carry back information and enthusiasm to their fellow employees.

Group managers, for example, hold safety meetings with subordinate supervisors at least once a month to review the findings of the steering committee.

Foremen and hourly workers hold regular monthly safety meetings and special safety meetings, when a new product or process is introduced. These meetings are often held right on the floor of the building. In this way, there can be no excuse—there rarely is one—for any member of the Technology Department to plead ignorance for failing to observe safety procedures.

This tight maintenance of an unbroken line of communication is not intended to imply that the company waits until a man is functioning as part of Technology's operation before he is thoroughly indoctrinated. Indoctrination in safety starts the day a new man sets foot in the department. All new technical personnel are instructed by the safety administrator in technology practice. He also reminds them that they should never ask a subordinate to undertake what they themselves would consider even mildly hazardous. His services, the safety administrator emphasizes, are always available.

For new hourly workers, safety

Circle Item No. 80—Reader Service Card

His Fault?
Your Fault?

STOP
SLIPS, FALLS
with
FERROX

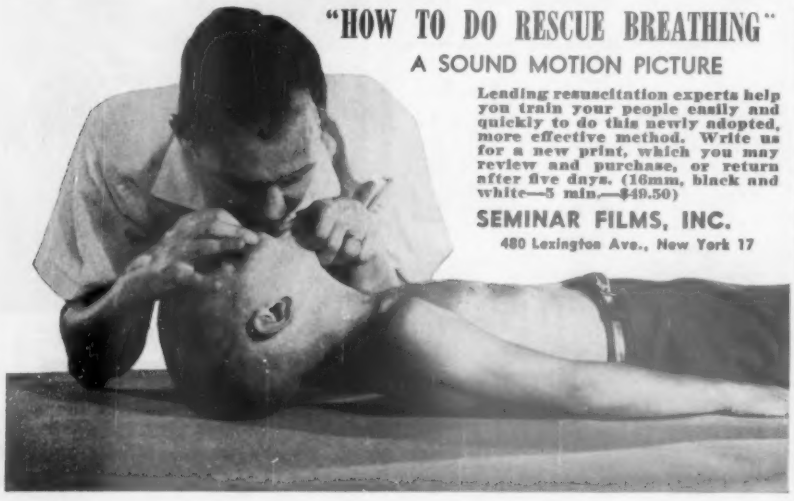
Millions of tiny, sharp, abrasive particles in Ferrox provide safe non-slip footing on all surfaces, wet or dry. Resists oil, chemicals, water and weather conditions. Adheres firmly to wood, concrete and metal. One gallon covers approximately 35 square feet. • Write for Ferrox Bulletin. AB 147

AMERICAN ABRASIVE METALS COMPANY
464 Coit Street, Irvington 11, New Jersey

"HOW TO DO RESCUE BREATHING"
A SOUND MOTION PICTURE

Leading resuscitation experts help you train your people easily and quickly to do this newly adopted, more effective method. Write us for a new print, which you may review and purchase, or return after five days. (16mm, black and white—5 min.—$49.50)

SEMINAR FILMS, INC.
480 Lexington Ave., New York 17



indoctrination sessions with their foremen are arranged. Safety, the new men are told, can never be sacrificed for expediency.

Steady concentration on safety follows the indoctrination sessions. A monthly safety objective, reviewing a different hazard in each issue, is circulated to supervisors and then posted on bulletin boards. Posters and clear markings on utilities like gas and steam lines and on safety devices like fire blankets, showers and first-aid kits never permit suggestions of safety to escape the eye. Therefore, they rarely escape the mind.

Prevention of accidents through safety consciousness is a fundamental and obvious part of the Technology Department's safety program. But the effort scarcely ends with an attempt to foist all responsibility on individual workers. On the contrary, every facet of every operation is studied to develop the most effective protective measures possible.

Since danger may threaten from a wide variety of machines or materials, the department and its laboratories have been thoroughly surveyed for safety. The hazards in each operation have been pinpointed and eliminated wherever possible.

A description of a few may be helpful to others facing similar problems:

*Hazard*—Radioactive materials exposing personnel to danger of radiation.

*Precautions*—Careful training of workers; safe working area; effective personal protective equipment; periodic medical examinations.

*Hazard*—Strong mineral acids and other chemicals leaking from drain pipes on to a lower floor.

*Precautions*—Installation of special glass drain pipe and fittings; dilution of all materials before disposal.

*Hazard*—Explosions in hydrogen furnaces.

*Precautions*—Manifold for hydrogen cylinders outside buildings; cover to protect from falling snow and ice; glass windows covered by heavy mesh; pilot flame at both ends of furnace chamber to prevent leakage; frequent furnace checks; warning signs posted when furnace in operation; thorough training of personnel.

*Hazard*—Explosion or contamination from compressed or toxic gases.

*Precautions*—Protective caps on gas cylinders; special instructions on use of regulators; proper supports for cylinders while in use and while in storage; hand detectors to detect leakage of carbon monoxide and other toxic gases; use of toxic gases under hood or with special ventilation; evacuation alarms in case of contaminated ventilation; storage of cylinders away from operating buildings.

*Hazard*—Explosions and fire at consumable electrode furnaces.

*Precautions*—Workers protected by double walls; other buildings and passersby protected by steel baffles; enclosure of furnace in cell with no one permitted inside while furnace is in operation; warning siren and red lights when equipment is operating; careful training of operators on action in case of emergency.

*Hazard*—Burns and asphyxiation from hydrofluoric acid.

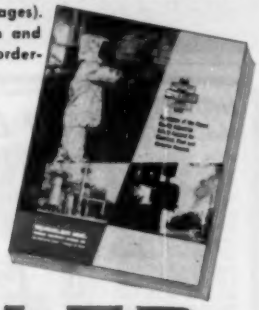
*Precautions*—Two men transfer


Circle Item No. 82—Reader Service Card

it's a safety sin to buy less than the very best

SEND FOR YOUR COPY OF THE WHEELER CATALOG

Complete bible on safety clothing (63 pages). A complete line of heat, acid, abrasion and impact resistant clothing. All essential ordering information. Get your copy today!



BUY WHEELER

PROTECTIVE WHEELER APPAREL Est. 1918

WHEELER PROTECTIVE APPAREL, INC.
226 W. Huron St. • Chicago 10, Illinois

SUperior 7-1156

"PROTECT YOUR CLIMBERS"

With Johnson All Rubber Ankle Action Dielectric Ladder Shoes. The Choice of Ladder Climbers in all parts of the world.

FOR EXTENSION LADDERS

WORK SAFELY ALL-WAYS

FOR STEP LADDERS

Our Step Ladder Shoes are popular with maintenance men in homes, office buildings, schools, hospitals and etc. Dealers in all principal cities. Ask your Safety Supply Dealer or send direct. Your order will be shipped promptly.

Johnson Ladder Shoe Inc. Eau Claire, Wisconsin

25¢ WINDSOCKS KEEP HEADS WARM

Snug, warm stocking cap for men who wear hard hats in winter. Stockingette weave easily expands to any head size. With Windsocks there's no time lost installing permanent type liners.

Order a trial dozen today.
Only $3.00 plus postage.

Standard Safety Equipment Company
431 N. Quentin Road, Palatine, Ill.

MORSE
Model 80 *Barrel-Lift*

Now . . . one man can safely handle liquid drum loads from 500 to 1,000 lbs.—raise, rotate, transport, tilt and drain 55 gal. drums. The mess, expense and hazards of spills, leaks, overflow and drum damage are eliminated. Sturdy, all steel welded construction . . . rubber tired wheels with ball bearings and rubber tired rear caster.

MAN • MINUTE • MONEY SAVERS!

MORSE Model 85
*Drum-Karrier*

Provides **complete** control. Easy one-man operation. Attaches to any monorail hoist . . . for all double chine drums 23" in diameter, 36" in height. Positive tilt locks hold drum in vertical position for carrying . . . provide control of tilt for mixing or dispensing. All steel welded construction.

Clip this ad to your letterhead

MORSE MANUFACTURING CO., INC.
765 West Manlius Street, East Syracuse, N. Y.

from tank car to weigh tank with one acting as watcher; both workers wear rubber coats, gloves, face masks, safety glasses; Scott Air Paks immediately available to both men.

*Hazard*—Explosion or fire at sintering operation.

*Precautions*—Fire eye control prevents starting of burners until equipment thoroughly ventilated and entire control paneling is completed.

*Hazard*—Inhalation of mercury vapor in excess of maximum allowable concentration.

*Precautions*—Monthly determination of mercury vapor in air; blood analyses of personnel at least once a month.

*Hazard*—Explosion and toxic effects from toxic compounds and toxic gases.

*Precautions*—Provision of operators with airline respirators and self-contained breathing apparatus; requirement that equipment be worn around reactor and cylinder filling area or when trouble encountered in carbon monoxide cylinder manifolding system; operator with breathing apparatus, which must be worn in storage building, accompanies driver transporting toxic compounds; fireproof storage building; unauthorized entrance blocked by building design; location of building in isolated area; continuous carbon monoxide alarm system when gas detected; flare stacks used to dispose of toxic compounds and toxic gases and carbon monoxide equipped with igniter to burn gases before they enter atmosphere and with alarms if igniter is extinguished; area around reactor and filling station chained off and posted with signs; air inside building constantly analyzed; analysis of urine samples.

These are just a few scattered examples of the many precautions taken by Union Carbide Metals to preserve the fine safety record of its Technology Department. But they are the end results—rather than the beginning—of the safety program. The beginning is probably best described as a company attitude, and the attitude is probably best described by this statement from management:

*In efforts to complete urgent research or development work, there is a tendency to take risks which would not be incurred except for this urgency. It is, therefore, reiterated that, regardless of any consideration of haste, safety always comes first.*

## Industrial Hygienists

*—From page 25*

mum Allowable Concentrations), or Damage Risk Criteria, or Maximum Permissible Dosage. These terms usually describe the concentrations or intensities of agents to which a person may be exposed continuously in a 40-hour work period without adverse effects on his health.

Animal exposure data, such as those derived from toxicity studies, are prime contributors to the establishment of human exposure criteria. Other criteria may be derived from comparisons of one compound of unknown toxicity with other chemically similar compounds whose Threshold Limits have already been established. Limitations of this procedure and of extrapolating animal data to humans are recognized. The most important of all these methods is the correlation of quantitative exposure data with observed clinical effects in humans.

Figure 1 illustrates important relationships and dependencies among

70 YEARS OF FIRE & SLIPPING CONTROL
IN OIL & GREASE PLANTS
*IS BEHIND*

**In Canfield's own refining and grease plants and warehouses . . where oily, greasy floors present a real problem in slipping and fire hazards, Oil-Spunj has shown the maximum oil and grease absorption . . maximum floor coverage . . maximum reduction of slip accidents and flash fires.**

**Canfield knows what it takes to prevent oily, greasy floors . . Oil-Spunj has what it takes!**

*Write for Samples and Prices*

Canfield Since 1886

CANFIELD OIL COMPANY
CLEVELAND 27, OHIO
PLANTS: PITTSBURGH, CLEVELAND, JERSEY CITY


Circle Item No. 85—Reader Service Card
Circle Item No. 86—Reader Service Card

components listed. For instance, clinical evaluation of the health problem may still be possible even after omitting measurement of human exposure, but feedback of new information on desirable exposure levels is eliminated.

Or complaints from employees about job conditions or the appearance of clinical cases in the dispensary will convince anyone that some sort of reduction in exposure is desirable without requiring knowledge of exposure levels in quantitative terms. However, without knowledge of exposure severity we can't propose criteria of acceptable exposure.

Exposure data without clinical findings leave us in the same position. And from the standpoint of engineering control, in the absence of permissible levels of exposure on which to design control facilities, we may purposely overdesign our controls to be on the safe side.

One example is where the amount of shielding necessary to reduce the intensity of ionizing radiations to background level may make the cost of construction prohibitive.

Overdesign always costs money. Industry is interested in saving money whenever possible. The procedure of developing reasonable or realistic standards of permissible exposure on which to base engineering control measures saves money.

Industrial hygienists maintain that quantitative measurement of exposures should be obtained regardless of how little is known of the toxicity or potentially damaging effects of environmental agents. If after an extended period of exposure some clinical aberrations show up, the industrial hygienist will be more able to correlate clinical findings with exposure conditions and, perhaps, from this correlation be able to propose exposure criteria.

Also, an important contribution can be made even if clinical findings continue to be negative, for exposure levels will have been established at which no adverse effects are produced. This is an attempt to contribute to the epidemiological method by lending definition to host-environment relationships.

Engineering control of hazards requires extensive knowledge in many fields. For example, a good knowledge of ventilation system design is required, because the capture and removal of airborne contaminants is often done by ventilation. Control of noise or heat and ultraviolet, visible, or ionizing radiations requires knowledge of the energy output and its transmission from the source. It also requires knowledge of the transmission and absorption characteristics of corrective materials.

Design of corrective measures is usually done in cooperation with the engineering department. It's always better to control a hazard by engineering means rather than by using personal protective devices because of nonconformity in the proper use of such equipment. Although techniques of controlling specific problems may be different and complex, the principles for controlling these hazards remain essentially the same.

We may eliminate the hazard by making changes in the basic operation, equipment, or facilities, or by substituting less hazardous materials. We may prevent dispersion or transmission of the environmen-


Circle Item No. 88—Reader Service Card

Acid-Resistant and STATIC-FREE!
100% Dynel, Anti-Static
CHEM-WEAR
UNION MADE ®
WORK CLOTHES

Nationally famous CHEM-WEAR work clothes repel acids, caustics and stains . . . and do not support combustion. Wear safe, always comfortable CHEM-WEAR Shirts, Trousers, Coveralls, Laboratory Coats and Work Aprons.

PERMANENTLY FLAMEPROOFED Work Clothing
Protects from the danger of spot welding and light metal splash, etc.

Send for Illustrated Folder Today

If Not Available at Your Safety Dealer Write to

M. SETLOW & SON, Inc.
Quality since 1896
131 CHESTNUT STREET
NEW HAVEN, CONNECTICUT

THE POSITIVE LADDER SAFETY DEVICE LOCKS-IN-A-NOTCH

Prevents death and injuries from falling.

If climber starts to fall, device locks in a deep notch on carrier rail and limits fall to approximately 6 inches — distance between notches.

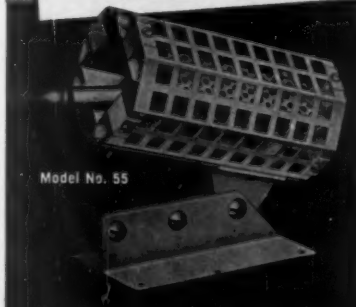
LOCKS AUTOMATICALLY and INSTANTLY—HOLDS SECURELY

Will catch and hold workman if he starts to fall, even if unconscious. Cannot slip on down ladder. Requires no attention from climber; he climbs in normal manner. Inexpensive. Easy to install; 3 men can clamp it to ordinary ladder in few hours. Clamps to any rung ladder, peg ladder, pole or framework. No welding or cutting. Notched rail hot-dipped galvanized. Entire equipment rust and corrosion proof. Can be kept free of ice by applying heat inside the carrier rail. In use approx. 11 years. Approved by Safety Engineers and Govt. Agencies throughout country. Patented. Manufactured only by

SAFETY TOWER LADDER CO.
1024 Burbank Blvd., P.O. Box 1052
BURBANK, CALIFORNIA

Circle Item No. 87—Reader Service Card

SOLDER WITH SPEED AND SAFETY
FIRST WILDER IN QUALITY
ADJUSTABLE SOLDERING IRON HOLDERS



Model No. 55

You can place these well designed soldering iron holders at any desired angle, and mount them either on top of or under the work bench. Or, pair a No. 55 and No. 53, with special slide attachment. Three sizes fit most irons. Wiping pad and clamp available.

Write for Complete Information

WILDER
MFG. CO., INC. PORT JERVIS, NEW YORK

Circle Item No. 89—Reader Service Card

Circle Item No. 90—Reader Service Card

SLIP-ON GUARD

PREVENTS FLUORESCENT LAMPS from FALLING

NO ACCIDENT A DAY KEEPS THE DOCTOR AWAY

GETS-A-LITE GUARD and GUIDE

Quickly and Easily Installed by Anyone—No Tools Needed!

- Simply slip GETS-A-LITE GUARD AND GUIDE over the fixture, as illustrated.
- Made of indestructible spring steel wire. Nothing to break, get out of order or replace. Will last indefinitely.
- Once installed, GETS-A-LITE GUARD AND GUIDE is NEVER removed.
- Nothing to unlock, fuss with or lock, when changing lamps.
- GETS-A-LITE GUARD AND GUIDE actually steers lamp into socket enabling maintenance man to change lamp in 10 seconds!
- Available for 40 watt and 100 watt fluorescent lamps.

GETS-A-LITE CO.—Dept. NSN-160
3865 N. Milwaukee Ave., Chicago 41, Ill.

When you buy...specify

HUNTSMAN

Fiberglass

WELDING HELMET

with "Extra Value" features

HUNTSMAN Glassholder base is a molded integral part of the helmet shell. Reduces weight on front of helmet. Improves balance for more comfort.

ORDER TODAY

KEDMAN CO. 233 South 5th West Salt Lake City, Utah

tal agent to personnel by segregating, isolating, or removing the hazard, or we may provide personal protective measures. To back up these measures, you'll always need adequate maintenance, housekeeping, and worker education.

How are these various ingredients and activities in industrial hygiene integrated, and how are the over-all objectives implemented? In any hygiene program there are a few basic approaches:

1. Blueprints; process, mechanical, and technical specifications; new materials and equipment must be reviewed to insure proper solution of environmental health problems at the design or formative stages, rather than allowing health problems to develop at the operating stages. Dollar and cents savings are obvious in incorporating engineering controls in the original design, rather than removing and replacing inadequate controls at a later date.

2. Periodic assessments of work environments must be made to determine health conditions and to ascertain effectiveness of control measures. The frequency of such assessment or survey will depend on the effectiveness of the activity mentioned in 1.

3. Special studies must be made of urgent or emergency health problems and of problems for which no prior solution is available.

4. Coordination must be maintained among management, engineering, technical, laboratory, mechanical, safety, and medical personnel.

5. Correlation of industrial hygiene with clinical data must be continuously carried out.

6. Industrial hygiene information must be communicated to high-level management so recommendations may receive proper attention.

7. Development of chemical analytical and engineering methods to evaluate and control new occupational problems must be done continuously. As development of new processes and materials may create new problems of health, assessment of such problems will require new techniques of evaluation and control.

8. Professional proficiency must be maintained by appropriate course work, literature, and membership in scientific societies.

What kind of training or qualifications are necessary for the industrial hygiene staff? First, probably the majority of industrial hygienists are engineers. However, the basic requirement for this field is a college degree, with a major in basic sciences such as chemistry or physics.

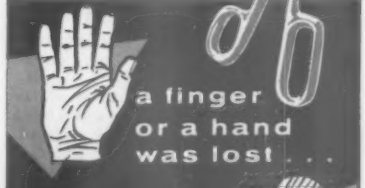
Next, post-graduate training in industrial hygiene should be acquired. Such course work is currently offered at Harvard University, University of Pittsburgh, The Johns Hopkins University, University of Michigan, and other institutions.

Post-graduate work in industrial hygiene gives major emphasis to methods of measurement and control of environmental hazards. Special work is included on design and function of ventilation systems; measurement and engineering control of heat, light, radiation, and air pollutants; analytical chemistry of toxic agents in air and biological fluids; special orientation in toxicology, environmental medicine, and in general public health practice.

With such a wide range of subject matter, a single industrial hygienist can't keep up with the latest developments in every field. Consequently, most industrial hygienists, while maintaining a fair degree of competency in the overall field, tend to specialize in cer-

for the lack of an

Osborn...



a finger or a hand was lost . . .

or a die was ruined.

For SAFETY Sake and Industry Proven Die Protection . . .

Always order OSBORN PLIERS

Osborn "NSN"

MANUFACTURING CORP.

WARSAW, INDIANA



Circle Item No. 91—Reader Service Card

Circle Item No. 92—Reader Service Card

tain phases, such as air pollution control methods, acoustics, radioactivity, or chemical analytical techniques.

Obviously, the industrial hygienist needs the cooperation of others. Aside from the medical department, close cooperation should be maintained with the safety department. A certain degree of overlapping interests already exists, especially where distinctions between health and safety are difficult to make. In almost every case the cooperation between industrial hygiene and safety has been mutually beneficial and gratifying.

One principal challenge in the field of industrial hygiene consists of making widespread application of knowledge already available. Information on hazards and engineering methods of control have been carefully worked out for many problems. Yet we continue to find faulty practices.

Need for continued research into occupational diseases and their prevention is always with us. This has become especially critical with the daily influx of new exotic chemicals and processes in modern industry.

We have mentioned the Threshold values and other criteria of so-called permissible exposure levels. Although these guides are of value, there are clear-cut limitations to their use. Many such limits have been established on the basis of nuisance, discomfort, or toxic effects.

Some have considerable safety factors built into them; others have none. All are based on an eight-hour-per-day exposure. This means they do not apply to short-term peak exposures. They don't account for individual susceptibility or allergic responses.

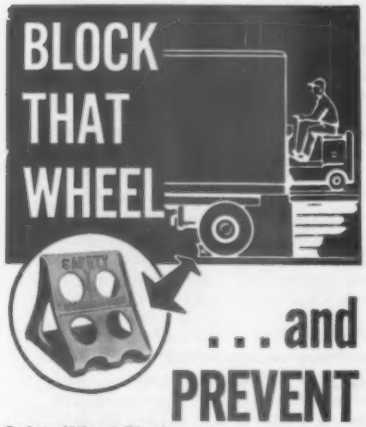
We don't yet have good information on synergistic or additive effects of exposures to mixtures of chemical compounds even though a Threshold Limit may have been established for each chemical in the mixture. Interpretation of these Threshold Limits requires considerable knowledge of their limitations. There is need for additional research in this area.

Another challenging problem is the continuing need for biological Threshold Limits. It's often difficult to approximate the dosage received by an individual merely by air sampling in breathing zones. If we could establish biological Threshold Limits—limits on the concentrations of toxic materials appearing in body fluids and in the urine or feces we'd probably have a better technique for determining the real dosage of severity of exposure.

Promising work is being done on the enzymatic approach to toxicology so we can determine subclinically any aberration in the body's ability to detoxify and discard hazardous materials.

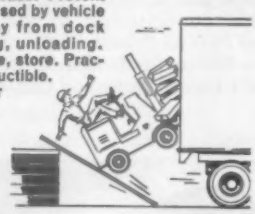
There is also a need to make health considerations competitive with the mechanical efficiency of purchased equipment. Other factors being equal, we should buy the compressor or turbine with the lowest noise level, equipment with the least leakage or fewest maintenance requirements or equipment with the greatest control over potential health considerations competitive

This approach not only minimizes health problems but gives greater monetary returns on initial investments.


. . . and PREVENT THIS!

Safety Wheel Blocks are light, strong, tough because they're **STEEL CASTINGS.** Hold heavy trucks, trailers with ease. Prevent accidents caused by vehicle moving away from dock while loading, unloading. Easy to handle, store. Practically indestructible. Stocked for Immediate Delivery



**$10.95 ea.** 1-5 Blocks
**$9.95 ea.** 6 or more
F.O.B. Hammond, Ind.

Order now for Immediate delivery! Write for illustrated catalog.

CALUMET STEEL CASTINGS CORP.
1638 SUMMER STREET • HAMMOND, INDIANA



Circle Item No. 93—Reader Service Card



Circle Item No. 94—Reader Service Card

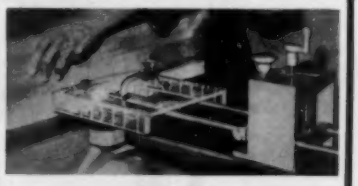
**FYRUMBRELLA** enables men to stay right up there—no need to be "run out" by roaring heat! No more lurking behind pieces of metal, bed springs, doors, wetted down tarps or blankets.

● Five feet square, when open, the aluminized surface deflects 95% of the radiant heat. The tough **GLASS** cloth construction makes it non-burnable. Three men with 2½" lines and any type nozzles may work through the hose port. Adequate forward vision is provided by eye ports on each side. The **FYRUMBRELLA,** weight only 9½ lbs., folds so compactly that it fits inside a section of 4" suction hose. The **FYRUMBRELLA** combines an aluminized reflective surface on strong, non-burnable glass cloth backed by a coating of neoprene for greater strength. Hardware is of a rugged steel construction to withstand raps and bumps. Write for complete information on Fyrumbrella, other Fyrepel Fire Fighting Equipment and Heat Protective Clothing.

**FYREPEL PRODUCTS, INC.**
Dept. A Box 503 Newark, Ohio



# REDUCE All Saw HAZARDS!



## with BRETT-GUARD *NEW!* Visual Safety Tool

A versatile combination visual circular saw guard and saw fixture, uniting the ultimate in precision designed tools for efficient guiding with the maximum safety guarding, has recently been introduced and marketed by the Brett-Guard Corp. Simple to set-up . . . economical for both large and small jobs . . . so safe that it's being used in vocational schools for the blind . . . made of transparent PLEXIGLAS that lets you see what you saw . . . fully adjustable for all those impossible-to-guard cuts . . . fitting all circular table-type saws for 6" to 22" blades . . . here is truly the last word in both safety and efficiency!

**FREE 30 DAY TRIAL! Send blade diameter, and make of your saw. Full details on request.**

**16MM DEMONSTRATION SOUND FILM! Available free loan.**

**BRETT-GUARD CORP.**
Dept. NSN, Englewood, N. J.



Circle Item No. 95—Reader Service Card

# Self-Powered
# COMBINATION SCRUBBER-VAC
# Cleans Vast-Area Floors "By the Mile"

Monoxide Eliminator, Powder Dispenser, and Rinse Assembly are accessories

- **Completely mechanizes scrubbing**
- **Coverage up to 24,400 sq. ft. per hour!**
- **Mounts a SELF-STARTING gasoline engine**

This *all-in-one* cleaning unit, *Finnell's 218G Gasoline-Powered Combination Scrubber-Vac,* is indeed the answer to today's need for increasing output per man-hour on vast-area scrubbing. *The 218G completely mechanizes scrubbing* — applies the cleanser, scrubs, flush-rinses if required, and picks up (damp-dries the floor) — *all in one operation!* Independence from power lines permits the machine to go wherever the operator guides it . . . working in and out of production areas with ease . . . *scrubbing continuously.*

Maintenance men appreciate the labor-saving features of this unit. The gasoline engine starts quickly and easily by pressing the starter button. And there are no switches to set for *fast* or *slow* — slight pressure of the hand on clutch lever adjusts speed to desired rate (up to 136 fpm). Two 18-inch brushes give a 36-inch scrubbing surface. *One engine* (2 cyl., 4 cycle, up to 10.1 hp maximum, and air-cooled) operates all working parts. The powerful vac performs quietly.

Whatever the area of your floors, find out what *you* would save with a *Combination Scrubber-Vac. Finnell* makes *self-powered* models — gasoline, propane, and battery operated — for small, vast, and intermediate operations. And of course *Finnell* also makes *electric* models to meet specific needs. It's good to know too that *a Finnell Floor Specialist and Engineer is nearby* to help train your maintenance operators in the proper use of *Finnell Equipment* and to make periodic check-ups. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 2201 East St., Elkhart, Ind. Branch Offices in all principal cities of the United States and Canada.

**FINNELL SYSTEM, INC.**
*Originators of Power Scrubbing and Polishing Machines*

Everything FINNELL for Floor Care

BRANCHES IN ALL PRINCIPAL CITIES

***See the Finnell Exhibit*** • **PLANT MAINTENANCE & ENGINEERING SHOW** • **Philadelphia** • **January 25-28** • ***Space 930***

# New SAFETY EQUIPMENT

**Product announcements in this section are reviewed for compliance with the advertising policy of the NATIONAL SAFETY NEWS. Inclusion should not, however, be construed as endorsement or approval by the National Safety Council.**

## Work Gloves

"Glo-Gluvs," due to their bright Day-Glo color, provide identification for workers involved in hazardous applications or where signaling is necessary, such as directions to crane operators or traffic control. Their color tends to prevent loss of the gloves.

**Granet Corp., Loring Drive, Framingham, Mass. (Item 301)**

## Demand Regulator

A re-designed demand regulator for demand-type self-contained breathing apparatus features high flow with slight breathing effort, a high-efficiency filter for protection against contaminants, field serviceability, and sturdy construction.

A two-lever system enables the admission valve to react to minimum breathing effort, producing a rapid, large-volume flow of air or oxygen.

The diaphragm of the Demand Regulator has been designed to serve as a gasket, providing integrated sealing of the assembly without cementing or use of string. Assembly or disassembly of the regulator can be accomplished in the field.

Other features of the regulator include an externally-mounted pressure relief valve to prevent venting into the breathing system; a by-pass valve flow contained with the regulator, requiring no external tube; the use of forgings for strength of housing and fittings; and accessibility of valve controls.

**Mine Safety Appl. Co., 201 N. Braddock Ave., Pittsburgh 8, (Item 302)**

## Safety Lock

A new safety lock system prevents electrically-powered machines or high-voltage systems from starting or running unless a safety door or guard is automatically locked in place.

The lock can be fitted to any safety door, guard or hatch. When the guard is open, the machinery cannot be started. When the door is closed, two parts of the lock are aligned. When the start button is pressed, the unit must lock automatically before the plant can operate.

For the lock to disengage, the hazardous condition must have ceased, and the guard can be opened safely.

The unit is a simple transformer split into two units —one secured to a guard or door, and the other mounted on a fixed part of the machine. When the guard is closed and the two units align by guides, the machinery may be started.

**Lindly & Co., Inc., 248 Herricks Road, Mineola, L. I., N. Y. (Item 303)**

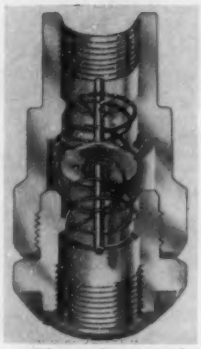
## Safety Plunger Can

A safety plunger can for dispensing flammable or volatile liquids may be used where cleaning must be done with gasoline or another similar liquid. The can is approved by Associated Factory Mutual Fire Insurance Companies.

Pressing on a spring-mounted dasher forces a measured amount of the fluid to rise and dampen a swab, brush, sponge or cloth. Moistening the cleaning swab with one hand, the operator holds in his other hand the item to be cleaned. Dangerous evaporation loss is reduced. A perforated metal screen in the dasher acts as a fire baffle.

Of one piece, 24-gauge terne-coated steel, the can has a seamless body. The top and body are electrically welded. This can is available in 1 and 2-qt., and 1-gal. capacity.

**Eagle Mfg. Co., Wellsburg, W. Va. (Item 304)**



## Safety Valve

This safety valve shuts off the flow of air, gas or liquid when a break occurs in the hose or pipeline beyond the valve. A broken hose can "whip" persons or equipment, and the loss of pressure can damage spray or regulatory equipment.

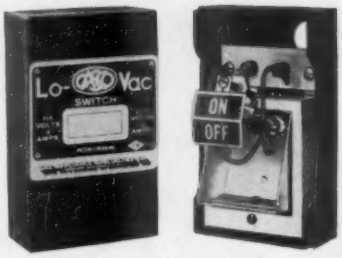
The valve consists of a brass housing, valve disc and two springs on either side of the disc. In normal operation, the flow of air is not impeded by the disc, because the free area around the disc is equal to the inside diameter of the supply pipe, and the pressures on both sides of the disc are roughly equal.

When a break occurs in the hose beyond the valve, the pressures "downstream" and "upstream" become unequal, causing the valve disc to close on the valve seat and stop the air flow.

A hole in the valve disc permits air to escape into the hose, even when the valve is closed. When the break has been repaired, escape of air gradually builds up pressure in the hose until it is once again roughly equal to the pressure in the supply line. The two springs bring the valve disc into its open position, resuming air flow.

There is no safety catch on the valve, because the catch would depend on the memory of the operator for protection.

**Sands Safety Valve Co., 3606 Federal St., Camden 5, N. J. (Item 305)**




## Pressure Switch

A negative pressure switch can be used in various applications, such as ovens, steam generators, paint baking, drying and finishing ovens and stack draught inducers for flue duct draught control.

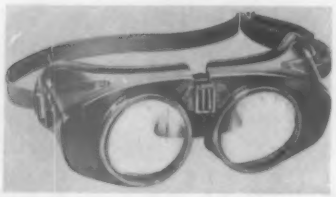
The Lo-Vac Switch is installed on the suction side of a system and becomes the heart of the system, interlocking the ventilating equipment, fuel supply and safety devices.

The capacity is 4 amps at 115 volts, 2 amps at 230 volts, a.c. or d.c. It closes at 0.21 inches of water and opens at 0.10 inches of water. It has a maximum setting of 0.30 to 0.15 in. of water.

It is fitted for 1 in. pipe for connection and is said to have the only switch with a positive "on" and "off" indicator showing the position of the switch at all times.

It is designed for hazardous processing industries or wherever low suction will create a hazard.

**Gas Appl. Specialties Co., Inc., Dept. LV-37, 32-37 56 St., Woodside, N. Y. (Item 306)**



## Coverglas Goggles

These goggles are for welders and chippers. Fitting over prescription spectacles, the goggles use standard 50-mm round lenses to reduce lens stocking problems.

The chippers's goggle, No. 325, has perforated aluminum side shields for direct ventilation, adjustable leather bridge, and is available with a rigid bar bridge or adjustable rigid bridge. It has clear lenses.

The welder's model, No. 329, is of identical construction, except for indirectly ventilated side louvers. It has Filterweld No. 5 shade lenses for protection against injurious light radiation, glare and flying sparks. Both frames are cellulose acetate in opaque brown.

**American Optical Co., Dept. 4634, Southbridge, Mass. (Item 307)**

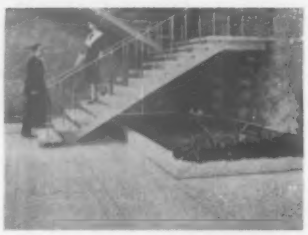
## Dry Chemical Fire Extinguisher

A 2½-lb. Coast-Guard and UL Chrome-Plated Dry Fire Extinguisher has a copper and nickel undercoat and polished chrome finish that eliminates rust spots or paint chipping.

Model V-2½ stops a 10-sq. ft. fire in 7 seconds. The extinguisher is waterproof, non-toxic, non-freezing, and is easily filled with air or nitrogen. The model has a gauge.

The unit is 15 in. high, and fits carbon tet brackets already installed.

**Randolph Laboratories, Inc., 1450 Frontage Rd., Northbrook, Ill. (Item 308)**



## Non-Slip Floor Polish

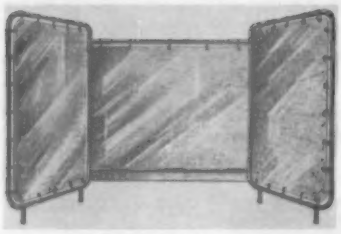
"Contrast" is a non-slip, wax-free floor polish. It has been developed to prevent discoloring or darkening of vinyl, asphalt tile, vinyl asbestos, linoleum, terrazzo and rubber tile floors.

The polish has a water base which won't even discolor white floors. It produces a tough, glossy finish —ideal for traffic areas.

It does not require buffing except to renew the gloss after heavy use. Traffic lanes may be patched, and the polish can be stripped.

It has built-in protection against bacterial contamination while in storage.

**Huntington Laboratories, Inc., Huntington, Ind. (Item 309)**



## Aluminized Asbestos Portable Screen

This lightweight portable welding screen offers protection. The screen is made of 1-in. tubular steel with a slip joint construction that eliminates threads. The curtain material is Johns-Manville aluminized asbestos, aluminum foil permanently laminated to Underwriters Grade asbestos cloth.

The screen protects against radiant heat and flame by reflection, and will withstand up to 1400 F.

It can be used as a three-sided enclosure or with special legs as a straight-line wall curtain. The screen is also available in a single panel version and a four-sided unit.

Screens are also available with curtains of 12-oz. fire-resistant duck and neoprene-coated fiber glass.

**Singer Glove Mfg. Co., 860 W. Weed St., Chicago 22, Ill. (Item 310)**

## Drum Handling Unit

A device for lifting and dumping drums or bags is designed for low-cost batch loading of mixers, blenders, kettles, tanks, bins and similar equipment.

Model DU Conveyor lifts and dumps standard size drums. It can be adapted to lift and discharge bags. The equipment has use in industry wherever bulk materials are received in these containers.

It is available in capacities to 400 lbs. and dumping heights to 12 ft. Models are stationary or portable, and variations can be designed for other heights and capacities.

**Conveyors & Dumpers, Inc., P. O. Box 567, W. Caldwell, N. J. (Item 311)**

## Emergency Splint

The disposable splint is a first-aid device. It is available in three sizes for arms, legs, hips or pelvis. This splint eliminates expensive replacement costs, and requires no triangular bandage.

The splint is built of a white corrugated board with attached muslin ties. It is tapered and scored to conform to the contour of the fractured limb, and its construction permits X-ray of fractures without removal of the splint.

It is sold in sets of three or individually, and can be equipment for rescue, ambulance, industrial safety and commercial vehicles.

**Hartmann Safety Products, Inc., P. O. Box 405, Mineola, L. I., N. Y. (Item 312)**

## Automatic Audiometers

The ARJ-4 Automatic Audiometer quickly checks hearing. The subject controls his own test and the audiometer is automatic; there is no need for supervision. These units may be used in military installations, industrial clinics and by otologists.

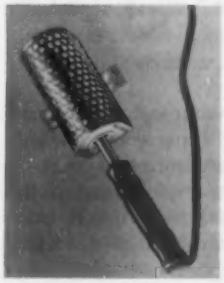
A mechanical recorder is geared to the attenuator. The recorder prints through a typewriter ribbon, and a two-color ribbon permits repeat audiograms to be made on the same card with contrasting colors. The record is dotted, with 20 dots per inch of vertical record. The ribbon life exceeds six months.

**Industrial Acoustics Co., Inc., 341 Jackson Ave., New York 54, N. Y. (Item 313)**

## Vinyl Gloves

A 4-to-1 vinyl impregnated work glove outwears cotton and many leather gloves by four or more to one. Styled for flexing hands and gripping action, the gloves are abrasion and snag-resistant. They can be laundered and are available in men and women's medium and large sizes, and slip-on or gauntlet styles.

**Surety Rubber Co., Carrollton, Ohio (Item 314)**

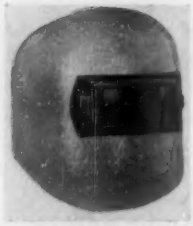


## Soldering Iron Holder

A steel and cadmium-plated soldering-iron holder has integral mounting flanges that permit attachment to bench or shelf. This keeps the soldering iron safely in reach and reduces danger of fire or burns.

The holder is perforated for self-ventilation. Its all-welded construction permits indefinite use, with no assembly by the purchaser or operator. The holder fits soldering irons up to ¾ in. in diameter.

**LaGrange Welding & Machine Co., Moores Mills, N. Y. (Item 315)**



## Stationary Plate Retainer

Back plate loading is the feature of the stationary front plate retainer for fiber and fiberglass welding helmets. This feature is based on plate-holding springs.

A large plate-holding area is claimed for the retainer. The manufacturer says there is room for cover plates, welding and safety plates, and a magnifier for bifocal wearers. Protection against the danger of electrical conductivity is afforded through use of nylon plastic.

A standard component on curved front helmets, with minor adjustments the stationary retainer can be used on older styles.

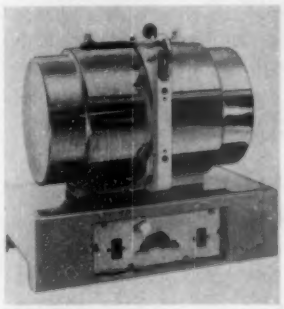
**Sellstrom Mfg. Co., 222 S. Hicks Rd., Palatine, Ill. (Item 316)**

## Fluorescent Thermoplastic Film

Tenak Velva-Glow retains color brightness for about two years' outdoor exposure. The film may be used for safety and identification markers on aircraft, marine and fire-fighting equipment, police cars, barricades.

The product is sandwiched between two protective layers of paper, and may be cut to size and shape with power, hand or die cutters, knife, scissors or razor blade. The plastic fluorescent surface may be printed, brushed or screened, once the protective paper layer is removed. Tenak adheres to most smooth, clean surfaces, including painted wood, metal, glass, porcelain enamel. It is available in six colors.

**Radiant Color Co., 830 Isabella St., Oakland 7, Calif. (Item 317)**



## Beta, Alpha Emission Counter

The Four Pi Counter, Model PC-4P, reportedly permits absolute counting of radio-active emitters.

Accuracy is claimed at 0.1 per cent. The device is designed for absolute measurement of beta or alpha emissions from "weightless" sample preparations, and for research work in self-absorption, cross-scattering, back-scattering, Alpha recoil production and bremsstrahlung.

The PC-4P permits calibration of radioactive emitters, primarily beta and alpha, using derived mathematical conversion corrections.

Sample preparation and introduction may be handled with ease. The instrument may be disassembled, decontaminated and reassembled in 15 minutes.

Used with a master scaling circuit and three slave scaling circuits, the unit will simultaneously count either hemisphere, with simultaneous and coincidence counts.

**Nuclear Measurements Corp., 2460 N. Arlington Ave., Indianapolis 18, Ind. (Item 318)**

## Safety Glasses

Polyfit plastic frames provide glasses that will fit most workers.

The bridge design fits comfortably, and the nickel-silver temples are interchangeable with most safety glasses equipped with five-barrel hinges.

Tapered temples, fastened with Sur-Loc pins, are available in cable or spatula styles. Flash tone plastic frames can be obtained with or without side shields. F7 shape lenses are removable for repair. Two lens sizes are available.

**Chicago Eye Shield Co., 2727 W. Roscoe St., Chicago 18, Ill. (Item 319)**

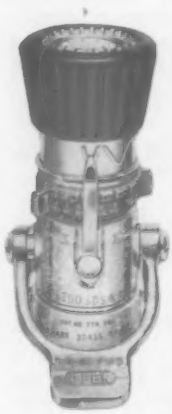
## Resistall Weave

Industrial uniforms made of 100 per cent Du Pont Dacron now have a new Resistall Weave.

The weave offers comfort to wearers by permitting rapid evaporation of body moisture and avoiding clammy discomfort.

Wash and wear Resistall Weave will be available in various styles of industrial uniforms. The fabric has resistance to acid and corrosive chemicals.

**Worklon, Inc., 253 W. 28th Street, New York 1, N. Y. (Item 320)**



## Fire Fighting Nozzle

A constant-flow nozzle, Select-O-Flow, will handle variable gallonage from 60 to 125 gpm at 100 psi nozzle pressure.

A sleeve-type gallonage indicator surrounds the barrel of the nozzle; and by turning this sleeve, the desired gallonage can be chosen. Gallonage can be adjusted without shutting down the line.

The nozzle has stream indicators for selecting the desired stream from narrow to wide fog patterns and straight stream. The nozzle is made in 1½-in. size.

**Elkhart Brass Mfg. Co., 1032 W. Beardsley Ave., Elkhart, Ind. (Item 321)**

For More Information—Circle Item Number on Reader Service Postcard

## Scaled Model Fittings

Miniaturized fittings, made to scale, help industrial buyers of safety hooks and fittings. The scale models are for demonstration, and allow users to visualize working conditions of wire rope fittings. The crane illustrated also demonstrates uses of hooks and wire rope fittings.

**Newco Mfg. Co., Inc., P. O. Box 5939, Kansas City 11, Mo. (Item 322)**

## Solvent-Detergent

Teclene #135 has penetrating and emulsifying action. It is a form of Teclene modified with chlorinated solvents of low volatility to remove heavy oil, grease and other contaminants. It may be brushed or sprayed on the surface, and rinsed with water, steam or solvents. Addition of three parts of water to seven parts of No. 135 forms a gel, which may be applied with brushes to vertical surfaces, and water rinsed.

No. 135 is a yellow liquid of the viscosity of light oil. It has no flash point and is of low toxicity, due in part to a slow evaporation rate. Although alkaline, it may be used in cleaning all metals and will not attack aluminum.

**Tect, Inc., Northvale, N. J. (Item 323)**

## Dry Chemical Hose Rack Unit

Various 200- and 400-lb. dry chemical hose rack units—wall, floor or truck mounted—are designed for electrical, LP gas, or flammable liquid fires. These units are top-rated by UL and feature simplified operation and streamlined design.

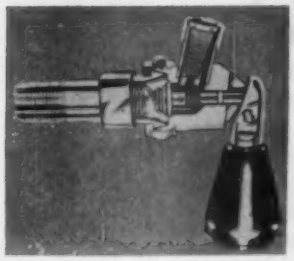
**Walter Kidde & Co., Inc., 675 Main St., Belleville 9, N. J. (Item 324)**

## Liquid Cleaner

Plaudit is a multi-purpose liquid compound for most industrial cleaning operations, such as steam, emulsion, immersion, ultrasonic and wipe-on cleaning.

This mild, neutral product is safe on hands, painted surfaces and other easily damaged surfaces. It can quickly remove the heaviest soils found on road building equipment, parts transfer cases, drilling equipment and hard-to-clean surfaces.

**Turco Products, Inc., 24600 S. Main St., Wilmington, Calif. (Item 325)**



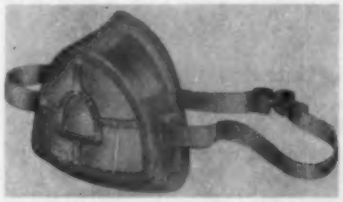
## Dispensing, Draining, Sampling Valve

A Factory Mutual-approved ¾-in. dispensing, drain and sampling valve is available in titanium for use in atomic energy, electronic, and chemical industries.

Titanium offers resistance to many types of corrosive media, including nitric acid in all concentrations (including white fuming nitric acid), solutions of chlorine, chlorinated organic compounds and inorganic chloride solutions, nitric-sulphuric acid mixtures, chlorinated hydrocarbons.

The valve uses a fume-tight design with spring-loaded chemically-impervious Teflon seals that overcome seizure problems and assure instant, positive shut-off or instant, full flow. The valve eliminates dangerous after-drip or leakage.

**Eco Engineering Co., 12 New York Ave., Newark, N. J. (Item 326)**



## Dust Mask

This lightweight polyethylene nuisance dust mask, the "Bantam," allows one filter and one mask for intermittent, non-toxic paint-spraying operations, as well as against nuisance dust.

The outer frame, filter, inner frame and head bands weigh less than one ounce. The polymer filter can be washed, dry-cleaned and re-used, and is not affected chemically by water, soap, oils, detergents or perspiration. The unit filters minute dust particles, resists paint pigments and is unaffected by paint absorption.

**Welsh Mfg. Co., 11 Magnolia St., Providence 9, R. I. (Item 327)**

## Rubber Hose

Rubber hose reinforced with Geon vinyl for industrial applications, where dusts and gases create explosion hazards, is designed to replace wire-reinforced hose. Hose reinforced with wire can cause sparking and explosion when the rubber exterior wears through and the wire is exposed. This hose consists of a rubber core, wrapped around a continuous coil of 3/16-in. round, rigid vinyl rod for strength and rigidity. The core and coil are wrapped with an exterior layer of abrasion-resistant rubber.

**B. F. Goodrich Chemical Co., 3135 Euclid Ave., Cleveland 15, Ohio (Item 328)**

## Work Gloves

Resistance to oil and water are features of Terri-Cord gloves. Hundreds of closely knitted loops per square inch prolong the wear, and cushion and protect hands. The gloves are heat-resistant.

Perspiration won't harden or stiffen these gloves, which hold their shape well and are washable with little shrinkage. They are available in 18-oz., 24-oz., and 32-oz weights in knit-wrist, band-top, gauntlet and reversible men's and women's styles.

**Advance Glove Mfg. Co., 901 W. Lafayette, Detroit 26, Mich. Item 329)**

## Fire Defense Chemical

Dangerous fire hazards created by gasoline and oil spills can be controlled with a new chemical hydrate emulsion formula. SLIX controls and eliminates fire and accident risks caused by flammable spills on highways, streets, ramps.

Used as an anti-coalescing agent, SLIX shatters the oil film into globules, chemically coats each droplet and then isolates it with an area of non-combustible water of hydration.

Flushing the emulsion into drains and sewer systems not only keeps oil and gasoline from depositing on the walls of the conduits, but removes the accumulated oil buildup. On water, the turbulent flow will remove the dispersed oils.

In fire-fighting, SLIX added to water fog reduces the water-particle size, important in fire extinguishment where water fog is used as the extinguishing agent.

SLIX is odorless, non-flammable, and non-toxic, contains no solvents and may be used with safety anywhere petroleum oils, kerosene, fuel oils, gasoline, naphtha, vegetable oils or similar fluids have accumulated.

**The Penetone Co., Tenafly, N. Y. (Item 330)**

## Retrax Temples

Universal-fitting, spatula-type Retrax Temples are available on the new Rapido line of custom-fit frames. These temples make it unnecessary to stock a number of sizes.

The wearer slides the spatula ear piece in or out of the temple member for a comfortable fit. The ear piece provides a no-pressure grip behind the ear. Rapido ear pieces, spatula or smooth hook, are made of transparent pink plastic in several colors.

**Watchemoket Optical Co., 323 W. Exchange St., Providence 3, R I. (Item 331)**

## Auxiliary Light

A 100 per cent automatic emergency auxiliary light for stores, buildings, institutions and factories is called the Beam-O-Matic. It has a fully automatic charge system that maintains a correct rate of charge at all times. It turns "on" instantly in case of failure of the regular 110-115 volt, AC lighting circuit. When the circuit is restored to normal, the Beam-O-Matic turns "off" and the fully automatic charge system immediately starts to restore the glass jar battery to full capacity at an accelerated rate. When full charge is reached, it automatically reverts to trickle charge.

The light has two 6 inch adjustable sealed beam lamp heads, each lighting approximately 5,000 square feet. Up to five heads can be operated from one unit not to exceed a total connected lighting load of 20 amps.

**U-C-Lite Mfg. Co., 1050 W. Hubbard St., Chicago 22, Ill. (Item 332)**

## Fiberglass Ladder

Aluminum rungs on this fiberglass ladder produce a product of strength and safety.

The combined weight of the car shown, a counterbalance weight and the man is 2,990 lbs. The ladder is a four-in-one, 10-ft. combination unit that weighs 35 lbs.

Twisting or walking the ladder will not loosen its rungs. The bonding process is flexible, and normally there is no side sway. Under test, a weight of 3100 lbs. did not pull the aluminum rungs from the side rail.

**Hopfeld Industrial Mfg. Co., 738 A St., P. O. Box 54, San Rafael, Calif (Item 333)**

## Safety Flag

Non-conductive reinforcing stays and fabric make these safety flags especially useful for specialized electric utility and municipal applications.

The fluorescent flags can mark off danger areas in power plants, sub stations or wherever high voltages present a hazard. Ray-D-8 flags are also useful on highways because of the strong vinyl-bonded-to-nylon construction. The flags are available in sizes up to 24 x 24 in. in many color combinations.

**Industrial Products Co., 2859 N. Fourth St., Philadelphia 33, Pa. (Item 334)**

H. L. Stanyon

### Fibre-Metal Products Co.

Harry L. Stanyon has joined the sales department of Fibre-Metal Midwest, Inc., in Chicago. He will cover Michigan, Wisconsin and Illinois, contacting welding and safety supply distributors. Stanyon was previously employed in sales work in eastern New York.

### Worklon, Inc.

A new office has been opened by this manufacturer of industrial uniforms at 1007 Madison Ave., Los Angeles. Marvin Maltz is to manage this office, which will carry the entire line of lint-free, acid-resistant garments.

F. Jaeger

### Essex Welding Equipment Co., Inc.

Fred Jaeger has been appointed Manager of the recently formed Safety Department of this Newark, New Jersey, organization. Mr. Yaeger, formerly of Mine Safety Appliances Co., has 21 years of experience in the safety equipment field. The company will carry a complete supply of safety equipment and supplies.

### M. L. Snyder & Son

This Philadelphia organization recently purchased the P. J. Nobel Co., Brooklyn, N. Y., manufacturers of wooden sole clogs, boots, sandals, and similar safety footwear.

The machinery and equipment have been transferred to their Philadelphia plant, and adequate stocks of the safety footwear will be maintained in various other Snyder plants and branches.

T. J. Baldwin

### Jackson Products, Air Reduction Sales Co.

Truman J. Baldwin has been appointed southeastern zone representative of Jackson Products, manufacturers of arc-welding accessories and industrial safety equipment.

He is a member of the American Society of Safety Engineers, and is active in the Alabama Chapter of the American Welding Society. He will cover North and South Carolina, Florida, Georgia, Tennessee and Alabama from his headquarters at 4442 Claremont Ave., Birmingham, Ala.

### Industrial Acoustics Co., Inc.

The Southern Acoustics Company of San Antonio, Tex., has been appointed sales representative for the medical and industrial departments of the parent company.

The company will handle audiometric examination rooms, soundproof rooms and enclosures and special instruments. A. J. Rogozinski is the head of the Southern Acoustics Company.

W. M. Grier

### "Automatic" Sprinkler Corp.

William M. Grier has been named district sales manager of the Chicago district for this manufacturer of fire detection and automatic sprinkler and fire-fighting systems. Grier has been a sales engineer with the firm's Youngstown office for 14 years.

### Fire-End Products

The Croker Fire Prevention Corporation has been purchased by the Fire-End Products Company of New York. The Croker Company supplies fire protection equipment in commercial construction. It will be operated as a division of the new company under the direction of Arnold Schildknecht.

A. Bird

### R. S. Landauer, Jr., & Co.

Allen Bird has been appointed to the newly-created position of sales development manager by this film badge service company. He will study current future sales potential of radiation safety services and will contact Landauer clients and prospects.

### Kidde Ultrasonic & Detection Alarms, Inc.

Andrew Mendelsohn has been appointed superintendent of installation and service for this subsidiary of Walter Kidde and Company, Inc. He will be responsible for the company's fire detection system installation and service.

D. Blackstone

### Brett-Guard Corp.

Daniel Blackstone has been appointed president of this manufacturer of plastic safety saw guards. He has been with the company since 1955, and will personally supervise marketing operations and product development. The company has also announced that they have moved to new quarters in Englewood, N. J.

Circle Item No. 97—Reader Service Card

NEW PORTABLE SINGER SCREEN

PROTECTION ON ALL 4 SIDES

NOW — a lightweight portable screen designed for complete enclosure. Easy, fast slip-joint assembly (no threads). Rust-proof finish. In 3 curtain materials:

*JOHNS-MANVILLE ALUMINIZED ASBESTOS* cloth — the last word in protection . . . neoprene-coated *FIBER GLASS* . . . 12 oz. fire-resistant *DUCK*. All sizes. Also available in single and three-sided models. Ask your dealer or write us.

**16 PAGE CATALOG**

Complete line of work gloves, welding gloves and safety clothing.

*Special Products Division*

SINGER GLOVE MFG. CO.

860 W. Weed St., CHICAGO 22, ILL.

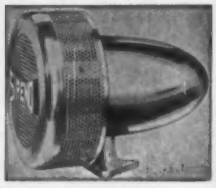
SEE OUR AD IN WELDING DATA BOOK

SIRENO (TRADE MARK)

WARNING SIGNALS

POWERFUL REVOLVING & FLASHING LITES

SIRENS ALL SIZES & TYPES



FOR INDUSTRIAL USE & EMERGENCY VEHICLES

Write for free Bulletin No. 70

THE SIRENO CO., INC.

214 WILLIAM STREET • NEW YORK 38, N. Y.

## Calendar Contest For October

Paul Jason (Individual Member) of New Bedford, Mass., won the $100 first prize in the National Safety Council's "Safety Saying" contest with this line:

*Don't risk it; just whisk it today!*

The contest appears monthly on the back pages of the Council's calendar. The theme for the October contest was "Be Firesighted."

Second prize of $50 went to Jim McMillan, Rock Island Steel Corp., Rock Island, Ill. His entry was:

*Don't pile up trouble—scrap scrap today!*

Jay Wrinkle, American Zinc Co. of Tennessee, Mascot, Tenn., won third prize of $25 for this line:

*He got rid of his trash—home same way!*

The 30 winners of $5 prizes are:

Mrs. John J. O'Rourke, Saginaw Steering Gear Div., General Motors Corp., Saginaw, Mich.

Ernest Zaiser, The Atlantic Refining Co., Philadelphia, Pa.

Mrs. Doris E. Bailey (Individual Member), Cambridgeport, Vt.

Edwin J. Vorisek (Individual Member), Chicago.

Ralph Collette, Los Angeles Board of Education, Los Angeles.

Frank F. Kors (Individual Member), Independence, Kan.

Miss Dorothy Scott (Individual Member), Chicago.

Bascom Wallen, The Mead Corp., Kingsport, Tenn.

Rufus R. Russell, Standard Brands, Inc., Greensboro, N. C.

Mrs. C. L. McCain (Individual Member), Homewood, Ala.

Paul D. Hahn, Calvin Coolidge High School, Washington, D. C.

Mrs. Paul A. Collett (Individual Member), Spokane, Wash.

Mrs. K. E. Carver (Individual Member), Monterey, Calif.

Clyde Campbell, E. I. duPont de Nemours & Co., Inc., Victoria, Tex.

Mrs. Florence Kivanoski, American Seating Co., Grand Rapids, Mich.

B. Coursin Black (Individual Member), Mesa, Ariz.

Miss M. Loretto Gainey, Beam Milling Co., Inc., Honeoye Falls, N. Y.

The Rev. Mr. M. W. Lilie, Emmanuel Lutheran Church, Lake View, Iowa.

Mrs. Betty Ensle, Missouri Pacific Railroad, Osawatomie, Kan.

Mrs. May N. Croasmun, Pittsburgh Stage, Inc., Pittsburgh, Pa.

E. F. Baker, Continental Steel Corp., Kokomo, Ind.

Mrs. Harriet Reagh (Individual Member), Los Angeles.

Mrs. D. W. Swearingen (Individual Member), La Harpe, Kan.

Mrs. Lonnie E. Lewis, Celanese Chemical Co., Kingsville, Tex.

Lem Levinson, Bethlehem Shipyard, Long Beach, Calif.

Mrs. R. M. Boule, Balco Forest Products Ltd., Heffley Creek, B. C.

Ivan L. Herring, Dow Chemical Co., Midland, Mich.

Mrs. Catherine Volk, Sealtest Foods, Louisville, Ky.

Mrs. Jessie Belitsky, Goodyear Aircraft Corp., Akron, Ohio.

Mrs. Ray Diekman (Individual Member), Normandy, Mo.

Fire Prevention Signs

STOP FIRES BEFORE THEY START

Complete line includes approved signs for every purpose, indoors or outdoors. Two gauges of steel available, with baked enamel or porcelain enamel finish. Send today for catalog and prices.

STANDARD SIGNS INCORPORATED

3190 EAST 65th STREET

CLEVELAND 27, OHIO



Circle Item No. 98—Reader Service Card

Circle Item No. 99—Reader Service Card

# TRADE PUBLICATIONS

**These trade publications will keep you up-to-the-minute on new developments in safety equipment and health products. All catalogs are free, and will be sent without obligation. Just circle publication number on the Reader Service Postcard.**

### Acoustical Ceilings

You can lick noise irritations and strengthen plant fire protection by installing acoustical ceilings. A 35-page booklet issued by Armstrong Corp. Co., 4210 Woodbridge St., Lancaster, Pa., gives details on various acoustical materials. Performance charts on these materials are helpful to the prospective buyer.

For more details circle No. 400 on enclosed return postal card.

### Radiation Monitoring Services

Radiation monitoring services offered by R. S. Landauer, Jr., & Co. are described in a new company booklet covering different types of badges and reviewing evaluation and control methods. Safety directors with workers exposed to X rays and radioactivity will be interested in these data. R. S. Landauer Jr., & Co., 3920 W. 216th St., Matteson, Ill.

For more details circle No. 401 on enclosed return postal card.

### Fluorescent Colors

Day-Glo fluorescent colors give a new glow to plant hazard areas, fire-fighting equipment, vehicles, danger warnings, and other signs. The manufacturer reports Day-Glo is four times brighter than other colors. Available colors: fire orange, blaze orange, rocket red, lightning yellow, and flash green. Catalog gives details. Switzer Brothers, Inc., 4732 St. Clair Ave., Cleveland 3, Ohio.

For more details circle No. 402 on enclosed return postal card.

### Hand Cleaner

"Go-Jo" a protective hand cleaner is the subject of literature produced by Gojer, Inc., Box 991, Akron, Ohio. Literature includes information on tests made of the product and outlines how Go-Jo works to prevent dermatitis.

For more details circle No. 403 on enclosed return postal card.

### Fire-Resistant Fluid

Literature gives details on a fire-resistant fluid that provides lubrication with fire protection. The fluid may be used in any hydraulic system where this type of fluid is needed. Formulated from refined base oil compounded to form a stable water-in oil emulsion. Sun Oil Co., 1608 Walnut St., Philadelphia 3, Pa.

For more details circle No. 404 on enclosed return postal card.

### Safety and Health Films

A list of safety and health films with sound tracks in English or Spanish has been issued by Bray Studios, Inc., 729 Seventh Ave., New York 19. The company has films ready on a free-loan basis; others are available at rental or purchase rates.

For more details circle No. 405 on enclosed return postal card.

### Fire-Fighting Foam

Unox is described by the manufacturer as a four-dimensional fire-fighting foam that smothers fires, covers and controls spill fires, penetrates to the heart of the fire, and has a cooling effect—absorbing heat like a sponge. Details are contained in a brochure issued by Akron Brass Mfg. Co., Wooster, Ohio.

For more details circle No. 406 on enclosed return postal card.

### Detects Static Electricity

"Staticator" detects and warns of static electricity in a potentially explosive area. Wall-mounted control box sets off buzzer and light when minute quantity of static charge (positive or negative) is present. Counter records number of violations. Chemetron Corp., 840 N. Michigan Ave., Chicago 11.

For more details circle No. 407 on enclosed return postal card.

### First Aid Kits

Catalog lists types of unit first-aid kits containing standard assortments of supplies. Also listed are the individual units available from Bullard for making up your own kits or for replacing used supplies. E. D. Bullard Co., 2680 Bridgeway Blvd., Sausalito, Calif.

For more details circle No. 408 on enclosed return postal card.

### Athlete's Foot Preventive

Fight athlete's foot with a new foot sprayer. Soon as bather steps on treadle, four jets douse feet and toes. Maker says sprayer uses half as much solution as sponge rubber mat. Onox, Inc., 121 Second St., San Francisco 7, Calif.

For more details circle No. 409 on enclosed return postal card.

### Sound Protectors

Muff-type sound protectors shut off loud noises harmful to the ear but do not shut off normal conversation. These devices do not require fitting and adjusting and are sanitary, the maker says. David Clark Co., 360 Park Ave., Worcester, Mass.

For more details circle No. 410 on enclosed return postal card.

### Goggle Respirator

This four-page Bulletin S-8016 describes a one-piece goggle and respirator molded from flexible rubber. Goggle has impact-resistant acetate lens. Mask is lightweight and fits over eyeglasses. American Optical Co., Southbridge, Mass.

For more details circle No. 411 on enclosed return postal card.

### Revolving Cup Guards

Revolving cup guards for portable tools are described in literature prepared by Morrison Products, Inc., 16816 Waterloo Rd., Cleveland 10, Ohio. The cup guards are described as lightweight, durable, and economical and are manufactured in compliance with the American Standard Safety Code.

For more details circle No. 412 on enclosed return postal card.

### All-Purpose Cable

Design and performance features of butyl rubber power cable are given in 32-page booklet No. 102, which covers available constructions from 600 to 15,000-volt conductors. Load factor tables are included. Anaconda Wire & Cable Co., 25 Broadway, New York 4.

For more details circle No. 413 on enclosed return postal card.

### Radiation Meters

Portable radiation survey meters are subjects of a new bulletin offered by Victoreen Instrument Co., 5806 Hough Ave., Cleveland, Ohio. Applications and operating characteristics of this line are detailed. Simplicity and accuracy are said to characterize the instruments.

For more details circle No. 414 on enclosed return postal card.

### Circuit Breakers

Low-voltage power circuit breakers are subject of Bulletin S-4261-2B, which includes ratings, drawout construction, selection chart, application table. I-T-E Circuit Breaker Co., 1900 Hamilton St., Philadelphia 30, Pa.

For more details circle No. 415 on enclosed return postal card.

### Industrial Gloves

Seiberling Latex Products Co., has made available a new catalog illustrating their firm grip industrial gloves in a choice of natural rubber or neoprene latex. These gloves are described as tough and durable and feature curved fingers for comfort and fit. Seiberling Latex Products Co., New Bremen, Ohio.

For more details circle No. 416 on enclosed return postal card.

### Fire-Retardant Paints

The Alim Corp., 11 Park Place, New York 7, has made available illustrated literature and data (including Underwriters' Laboratories ratings) on their fire-retardant paints.

For more details circle No. 417 on enclosed return postal card.

### Prevents Slipping

Quick-drying, abrasive-filled Ferrox provides safe footing for the worker. Applied with a trowel, one-gallon covers about 35 to 40 sq. ft. Ferrox Bulletin gives details. American Abrasive Metals, Inc., 464 Coit St., Irvington 11, N. J.

For more details circle No. 418 on enclosed return postal card.

### Automatic Fire Detection and Alarm Systems

Literature describes company's line of fire detection and alarm systems—U.L.-approved. Featured is the W247 Panel for detection and alarm for safe evacuation in buildings of all sizes. The panel features large-bell capacity up to five-bell circuits operating a total of up to 50 bells. Choose from three types of alarms: continuous ringing, master-coded and selective-coded (bells ring in code to identify fire location).

The panel features supervision of the detection and alarm circuits. W-237 Panel is available with standby battery operation so the alarm will sound during a power interruption. This system is designed so it can sound the fire alarm with a break or ground in the detector wiring. Minneapolis-Honeywell Regulator Co., 2753 4th Ave., Minneapolis 8, Minn.

For more details circle No. 419 on enclosed return postal card.

### "Bio-Assays for Hazard Control"

Controls for Radiation, Inc., 130 Alewife Brook Parkway, Cambridge 40, Mass., has made available a brochure listing the services and consultation the company supplies to industry and government agencies using atomic radiation. Based on an evaluation of the operation and its hazards, the company will recommend a program specifying a type of analysis, frequency of sampling, personnel to be sampled, and other details.

Also included is a film badge service, decontamination, leasing of monitoring instrumentation systems, pre-operational and operational radioactivity surveys, safety education for operating personnel, and hazard control programs.

For more details circle No. 420 on enclosed return postal card.

### Tips on Ultrasonic Cleaning

Alkaline and acidic detergents are said to be better for ultrasonic cleaning than the more viscous solvents. Based on field work with this cleaning method, the bulletin describes the process by which high-frequency sound waves impart intense scrubbing action to solutions to speed precision cleaning.

The method's success depends on the cleaning solution, says the Bulletin, which describes compounds proving effective and the types of operation ultrasonic cleaning does best. Oakite Products, Inc., 114D Rector St., New York 6.

For more details circle No. 421 on enclosed return postal card.

### High Pressure Boiler Water Gages

Technical Data on new Jerguson Refraport Gages is covered in Data Unit #358. Refraport gages are for WSP up to 3000 psi and feature a new concept in high-pressure gage design. Principles of light refraction are used. The water level shows black similar to reflex gages. The steam area shows clearly as a line of brilliantly lighted bullseyes. Jerguson Gage & Valve Co., 80 Adams St., Burlington, Mass.

For more details circle No. 422 on enclosed return postal card.

### Electric Safety Switch

Bulletin PL 250-ND describes the American Electric Switch line and features Type "ND" Safety Switches designed for normal-duty industrial and commercial use. Callout photographs list key features, charts list characteristics of 30- and 60-ampere switches, and drawings illustrate the bulletin. American Electric Switch is a division of The Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio.

For more details circle No. 423 on enclosed return postal card.

### Fire Extinguishing Systems

A revised booklet on fire-extinguishing systems and equipment is available from the Cardox Division of Chemetron Corp., 840 N. Michigan Ave., Chicago 11. This booklet, called Folio 1-1, lists principal causes of large-loss fires, advantages in the use of carbon dioxide, and examples of extinguishing installations in various industries including steel, general manufacturing, aircraft, electrical and publishing.

The publication illustrates typical Cardox systems for generators, flammable liquids, paint spray rooms and booths, quench and dip tanks, record and fur storage vaults and pump house and pumping operations. Also it describes components and control of extinguishing systems, and shows low- and high-pressure systems and special equipment such as fire trucks, "Foam-Maker" systems and nozzles.

For more details circle No. 424 on enclosed return postal card.

### Pressure-Sensitive Markers and Signs

North Shore Nameplate's line of Speedy-Marx pressure-sensitive markers and signs are now available on quick-release Red Rocket R cards. These quick-dispensers enable markers to be peeled off and applied without distortion. Red Rocket cards are coated with a compounded film which releases the waterproof markers instantly. The coating protects the adhesive qualities of signs and markers, and assembled units have unlimited shelf life. Speedy-Marx waterproof vinyl markers in stock include standard pipe, wire and electrical markers, accident-prevention signs, numerals and letters, and identification signs.

They remain unaffected by grease, dirt, oil and abrasion; are always legible; and conform to NEMA-ASA specifications. Catalogs give details. North Shore Nameplate, Inc., 214-27 Northern Blvd., Bayside, N. Y.

For more details circle No. 425 on enclosed return postal card.

### Lira Infrared Analyzer

Bulletin No. 0705-3 gives details on the M-S-A Model 300 LIRA infrared analyzer. The folder highlights features of the instrument, including its small size and portability, roll-out tray construction, and flexibility in handling gas analysis problems. Applications are outlined for fields of furnace atmosphere and combustion control, humidity measurement, logging of gas and oil wells, petrochemical process stream analysis, and detection of toxic and combustible gases. Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh 8, Pa.

For more details circle No. 426 on enclosed return postal card.

### New Custom Nuclear Products

Custom equipment for the handling and use of strong radioactive sources is offered by Radiation Engineered Services of Norristown, Pa. Included are: industrial gamma radiography machines, gamma irradiators, and special radiation monitoring devices. Literature gives details.

For more details circle No. 427 on enclosed return postal card.

### Foolproof Industrial Glove Selector

A guide to economy, worker safety and efficiency is provided in "Foolproof Industrial Glove Selector" introduced by The Pioneer Rubber Co., 296 Tiffin Road, Willard, Ohio.

Purchasing agents and safety directors can select the right glove with accuracy, speed and convenience. The selector chart is developed for industrial glove users. This unit provides facilities to choose hand protection whether factores involve chemicals, abrasion resistance, temperatures, worker fatigue, degree of dexterity or protection of products during handling.

There are two steps to using the selector. A Job Condition Check List is provided on which the hand protection problem is evaluated. This information is applied to one of four keys on the slide selector chart.

The right glove for the job involved is selected from 57 glove models of different weights and materials. An added feature is the performance data chart listing chemicals used in industry and recording the reaction of glove materials tested in these substances.

For more details circle No. 428 on enclosed return postal card.

### Slings

A folder describing slings made of synthetic webbing has been released by American Manufacturing Co., Inc., Noble and West Sts., Brooklyn 22, N. Y. Amco Slings, made of nylon, dacron or polypropylene, are offered in five styles with three types of hardware for applications. Charts list widths ranging from 1 to 10 in., thicknesses, breaking strengths and safe working loads.

For more details circle No. 429 on enclosed return postal card.

### Duty Blast Cleaning Barrels

Bulletin No. 706 describes features found in the Standard Duty line of Rotoblast barrels from 1½ to 18 cu. ft. capacity. In addition to photographs and cut-away diagrams, the bulletin gives dimensions and specifications of each of the five barrels described, showing how each can be tailored to individual requirements.

The Rotoblast abrasive impeller, heart of Pangborn's airless blast cleaning equipment, is described and illustrated, showing the features. Pangborn Corp., Hagerstown, Md.

For more details circle No. 430 on enclosed return postal card.

### Demand Inhaler

The Stephenson Demand Inhaler is described in a bulletin released by the manufacturer. This instrument can be put into operation by connecting to any sized oxygen cylinder. It is used where the patient requires oxygen but has not reached a condition of apnea. The amount of oxygen supplied depends on the patient's demand. Stephenson Corp., Red Bank, N. J.

For more details circle No. 431 on enclosed return postal card.

### Film-Badge Radiation Protection Service

In view of the lowered radiation dose limits recommended by the National Committee on Radiation Protection, Nuclear-Chicago has improved its film-badge service by going to a sensitive film permitting accurate reporting of doses as low as one milliroentgen.

Reporting of the low doses also marks the start of a new IBM computing system. Customer radiation statements now include badge reports for current periods, accumulated reports for 13-week period and for the year to date. This method of reporting will save tallying time for subscribers and will make it convenient for those who have to keep reports for governmental bodies.

The new IBM reporting system computes data automatically from the exposed film and prints results directly on the report that goes to the customer. This is said to be new in film-badge service and will result in faster, error-free reporting. Request the company's new brochure. Nuclear-Chicago Corp., 359 E. Howard Ave., Des Plaines, Ill.

For more details circle No. 432 on enclosed return postal card.

### Metal Corrosion Prevention

A simple, economical way to prevent metal corrosion is the subject of a catalog available from Corrosion Reaction Consultants, Inc., 116 Chestnut St., Philadelphia 6, Pa. Called CRC 3-36, this liquid formula is useful in metal manufacturing and metal maintenance.

According to the manufacturer, it prevents corrosion of iron, steel, aluminum, copper, brass, magnesium and other commonly-used metals. It checks corrosive deterioration of bare, plated or painted metal surfaces and maintains tools, instruments, dies, fixtures, jigs and precision-machined surfaces.

For more details circle No. 433 on enclosed return postal card.

### Cold Cleaning Solvents

A series of safety cleaning solvents is claimed to offer industrial users substantial savings in material costs by enabling them to select a formulation meeting their cleaning requirements. This eliminates wasteful use of high-cost solvents for routine cleaning.

The series of 11 standard formulations ranges from low-cost "wash-up" solvents to high-safety-factor blends for hazardous locations. Literature lists applications, safety factors, flash points, relative drying time and standard price schedule. Harco Chemical Co., Cranford, N. J.

For more details circle No. 434 on enclosed return postal card.

### Paint for Fire Protection

Safe fire retardant paints decorate, stop flame spread, and insulate. They are easily applied with brush, spray or roller, and are available in full range of colors. Bulletin gives details. Baltimore Paint and Chemical Corp., 2325 Anapolis Ave., Baltimore 30, Md.

For more details circle No. 435 on enclosed return postal card.

### Protects Metal Against Rust

Rust-Oleum resists sun, moisture, heat, fumes, rain, snow and weathering. Applicable with brush or spray, it stops rust while it decorates. A new 36-page catalog shows colors and applications. Rust-Oleum Corp., 2672 Oakton St., Evanston, Ill.

For more details circle No. 436 on enclosed return postal card.

### Radiation Signs

Radiation signs, which conform in color to standards specified by the Atomic Energy Commission, are reviewed in a new bulletin issued by the Ready Made Sign Co., 115 Worth St., New York. A price chart, covering sizes and styles, is included.

For more details circle No. 437 on enclosed return postal card.

### Eyewash Fountain

Literature prepared by the Halsey W. Taylor Co., Warren, Ohio, features eye wash fountains, drinking faucets, and electric coolers. The eye wash fountain has a self-closing, cross-handle stop with volume regulator and two 40-stream projectors that provide soft eyewash streams. All exposed fittings are chromium plated.

For more details circle No. 438 on enclosed return postal card.

### Work Clothing

Acid- and caustic-resistant work clothing in the latest miracle fabrics, including Dacron, Orlon, and Dynel, are reviewed and illustrated in a new brochure available from Worklon, Inc., 253 W. 28th St., New York. The line includes uniforms, coveralls, and shop coats. Sturdy wearing qualities, attractiveness, and comfort are among advantages of this clothing, the catalog says.

For more details circle No. 439 on enclosed return postal card.

### Waterless Skin Cleanser

A waterless skin cleanser that removes stubborn soil without harming the hands is safe, and usable on the job site. This saves time-consuming trips to the washroom. The cleanser has a pleasant, clean odor. Details are contained in literature available from Sugar Beet Products Co., Saginaw, Mich.

For more details circle No. 440 on enclosed return postal card.

### Fire-Resistant Fluids

The Shell Oil Co., Industrial Products Dept., 50 W. 50th St., New York 22, has available a booklet of 17 pages: *Shell Synthetic Fire-Resistant Fluids*. The booklet describes Shell Synthetic Fire-Resistant Fluids "B" and "C". Discussed are safety factors, applications and operating factors of the fire resistant fluids.

For more details circle No. 441 on enclosed return postal card.

### Floor Maintenance Products

Bulletin No. A-1295 describes Moratred, used for resurfacing and patching new or old concrete, wood or steel floors. This product provides non-skid surfaces on ramps, stairs, etc. Chemical and solvent resistant qualities offer protection against damaging effects of alkalies, acids, salt solutions, carbon tetrachloride, oils, greases and many other petroleum solvents. Bulletin No. A-5095 describes another product, Moraset. This is a liquid material specially formulated for filling and sealing cracks, small holes, spalled and etched areas, etc., in concrete, terrazzo, ceramic and quarry tile floors and walls, indoors and out. Moraset may be used for overall surfacing. Abrasive may be added for a non-slip surface. Cracks filled and sealed with Moraset eliminate mold and bacteria-harboring areas in such industries as food and drug, brewing, explosive, etc. Moraset is also said to be ideal for repairing swimming pools and other similar reservoirs. Rock-Tred Corp., 7442 N. St. Louis Ave., Skokie, Ill.

For more details circle No. 442 on enclosed return postal card.

### Noise Simplified

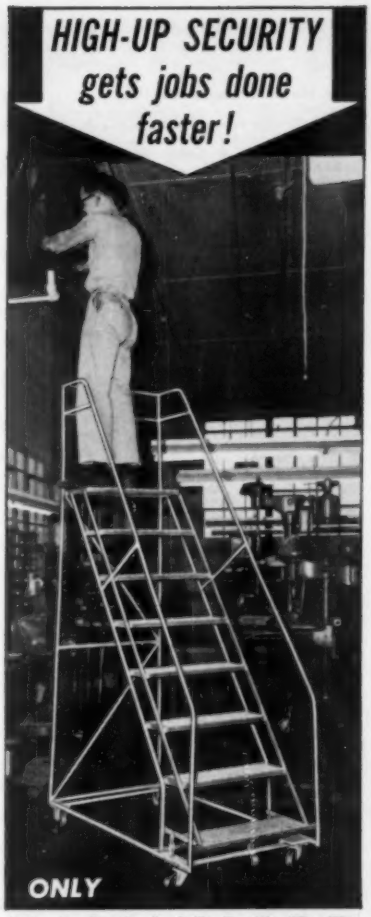
*Noise Simplified* is an 18-page booklet issued by Herman Hosmer Scott, Inc., 111 Powder Mill Road, Maynard, Mass. Technical information of sound measurement, the relation of noise to hearing and methods for controlling noise is provided.

For more details circle No. 443 on enclosed return postal card.

### Lock-Out

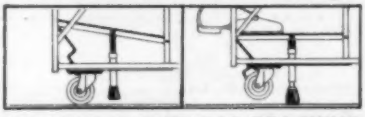
Safety for maintenance personnel is provided with Lock-Out, made by Osborn Mfg. Co., Warsaw, Ind., and described in the firm's pocket-sized bulletin. Information is available on how the safety device can be used by six different persons in shutting off switches; fuse boxes; and gas, acid, and steam valves.

For more details circle No. 444 on enclosed return postal card.


BALLYMORE
"Hi-boy" LADDERS

have exclusive PYRAMID design and automatic BALLYLOCK floor locking



ALL-WELDED STEEL FOR REACHING HEIGHTS UP TO 15 FEET

*For complete information, write:*
BALLYMORE COMPANY
WEST CHESTER 17, PA.

BALLYMORE
*EQUIPMENT FOR ABOVE-FLOOR SAFETY*

LOOK FOR THIS LABEL TO BE SURE IT'S THE BEST

# advertisers' index


A

**Acro Metal Stamping Co.** ..... 104
*Agency: Roy F. Cratty Agency*
**American Abrasive Metals Co.** ..... 116
*Agency: Michel-Cather, Inc.*
**American Chain & Cable Co. Inc., Chain Div.** ..... 95
*Agency: Reincke, Meyer & Finn Inc.*
**American Chain & Cable Co. Inc. Wire Rope Sling Div.** ..... 94
*Agency: Reincke, Meyer & Finn, Inc.*
**American-Marietta Co. Valdura Div.** ..... 88
*Agency: Turner Advertising Agncy*
**American Optical Co.** ..... B. C.
*Agency: Sutherland-Abbott*
**American Tel. & Tel. Co.** ..... 69
*Agency: N. W. Ayer & Son, Inc.*
**Ampco Metal, Inc.** ..... 96
*Agency: Hoffman, York, Paulson & Gerlach, Inc.*
**Ansul Chemical Co.** ..... 41

B

**Ballymore Co.** ..... 133
*Agency: The Brady Co.*
**Bashlin, W. M., Co.** ..... 74
*Agency: Dares & McKanney Adv.*
**Bausch & Lomb Optical Co.** ..... 71
*Agency: Wolff Assoc., Inc. Adv.*
**Benson & Assoc.** ..... 115
*Agency: Vernon S. Weiler, Adv.*
**Beryllium Corp.** ..... 92
*Agency: Molesworth Associates*
**Bethlehem Steel Co.** ..... 75
*Agency: Hazard Advertising Co., Inc.*
**Blackmer Pump Co.** ..... 74
*Agency: The Jaqua Co., Adv.*
**Boyer Campbell Co.** ..... 72
*Agency: Dix & Eaton Adv.*
**Brett-Guard Corp.** ..... 121
*Agency: Greenwood-Kaplan, Inc.*
**Brossard, Lester L., Co.** ..... 107

C

**Calumet Steel Castings Corp.** ..... 121
*Agency: Ross Llewellyn, Inc.*
**Cambridge Rubber Co.** ..... 76
*Agency: Bresnick Co., Inc.*
**Campbell Chain Co.** ..... 60
*Agency: Aitkin-Kynett Co., Inc.*
**Canfield Oil Co.** ..... 118
*Agency: Frank M. Wulf Assoc.*
**Carpenter Mfg. Co.** ..... 107
*Agency: Albert Frank-Guenther Law*
**Chicago Eye Shield Co.** ..... I. B. C.
*Agency: Reincke, Meyer & Finn, Inc.*
**Coppus Engineering Co.** ..... 108
*Agency: James Thomas Chirurg Co.*

D

**Davis Emergency Equipment Co.** ..... 78
*Agency: Williams & London, Adv.*
**Detex Watchclock Corp.** ..... 64
*Agency: J. M. Kesslinger & Assoc.*
**Dockson Corp.** ..... 86
*Agency: F. B. Hubert Advertising Counselors*
**Du Pont, E. I. De Nemours & Co. Elastomers Div.** ..... 91
*Agency: N. W. Ayer*
**Dymo Corp.** ..... 62
*Agency: The Wyman Co., Inc.*

E

**Edmont Mfg. Co.** ..... 16
*Agency: Maurice Mullay, Inc.*
**Ellwood Safety Appliance Co.** ..... 108

F

**Fendall Co.** ..... 61
*Agency: Edward C. Kennedy, Adv.*
**Fibre Metal Products Co.** ..... 89
*Agency: The Katula Co.*
**Finnell Systems, Inc.** ..... 122
*Agency: Johnson, Reed & Co., Inc.*
**Fyrepel Products, Inc.** ..... 121
*Agency: Merchandising, Inc.*
**Fyr-Fyter Co.** ..... 55
*Agency: Weber, Geiger & Kalat, Inc.*

G

**Gamewell Corp.** ..... 7
*Agency: James Thomas Chirurg Co.*
**Gets-A-Life Co.** ..... 120
*Agency: Read Brothers*

H

**Haws Drinking Faucet Co.** ..... 106
*Agency: Pacific Advertising Staff*
**Hood Rubber Co.** ..... 67
*Agency: The Griswold-Eshleman Co.*
**Huntington Laboratories, Inc.** ..... 111
*Agency: Bonsib Advertising Agency*
**Hy-Test Safety Shoes Div., International Shoe Co.** ..... 1
*Agency: Jos. E. Schmitt Inc., Adv.*

I

**Inland Steel Co.** ..... 57
*Agency: Edward H. Weiss & Co.*
**Iron Age Safety Shoe Div., H. Childs & Co.** ..... 43
*Agency: Marsteller, Rickard, Gebhardt & Reed, Inc.*

J

**Jackson Products Div., Air Reduction Co.** ..... 85
*Agency: A. Hemsing Advertising*
**Johnson Ladder Shoe Co.** ..... 117
**Jomac, Inc.** ..... 93
*Agency: Gray & Rogers, Adv.*
**Jones & Co.** ..... 109
**Junkin Safety Appliance Co.** ..... 103
*Agency: Farson, Huff & Northlich*

K

**Kedman Co.** ..... 120
*Agency: Gardiner Advertising Agency*
**Kennedy-Ingalls, Inc.** ..... 113
*Agency: Morrison-Seymour, Inc.*

L

**Lathem Time Recorder Co.** ..... 111
*Agency: Adams-Allison Co., Div. of Burke, Dowling Adams, Inc.*
**Lawter Chemicals, Inc.** ..... 65
*Agency: Stern, Walters & Simmons, Inc.*
**Legge, Walter G., Co., Inc.** ..... 84
*Agency: J. M. Kesslinger & Associates*
**Lehigh Safety Shoe Co.** ..... 3
*Agency: Frederick-Clinton Co., Inc.*

M

**Master Lock Co.** ..... 115
*Agency: Scott, Inc., Adv. Agency*
**McAn Thom Safety Shoe Div.** ..... 87
*Agency: Doyle, Dane & Bernbach, Inc.*
**Merrill Brothers** ..... 110
*Agency: Charles Jon Dalldorf Advertising*
**Mine Safety Appliance Co.** ..... I. F. C.
*Agency: Ketchum, MacLeod & Grove, Inc.*
**Minnesota Mining & Mfg. Co.** ..... 97
*Agency: Erwin Wasey, Ruthrauff & Ryan, Inc.*
**Modern Machine Tool Co.** ..... 112
*Agency: Rolfe C. Spinning, Inc.*
**Morse Mfg. Co. Inc.** ..... 118
*Agency: Chapman-Nowak & Assoc., Inc.*

N

**National Foam System Inc.** ..... 81
*Agency: Harvey & Thomas, Adv.*
**National Safety Council** ..... 99-100-101-102

O

**Onox, Inc.** ..... 49
*Agency: Albert A. Drennan, Adv.*
**Osborn Mfg. Co.** ..... 120
*Agency: Tri-State Advertising Co., Inc.*

P

**Packwood, G. H. Mfg. Co.** ..... 13
**Patent Scaffolding Co., Inc.** ..... 79
*Agency: Stoetzel & Assoc., Inc.*
**Pioneer Rubber Co.** ..... 59
*Agency: Carr Liggett, Adv., Inc.*
**Prairie State Products Co.** ..... 105
**Pulmosan Safety Equipment Corp.** ..... 15
*Agency: M. L. Grant, Inc.*

R

**Ready Made Sign Co., Inc.** ..... 48
*Agency: Chelsea Advertising Inc.*
**Ripple Sole Corp.** ..... 82
*Agency: Reilly, Brown & Tapple, Adv.*
**Rockwood Sprinkler Co.** ..... 77
*Agency: James Thomas Chirurg Co.*
**Rose Mfg. Co.** ..... 70
*Agency: Harold Walter Clark, Inc.*

S

**Safeguard Mfg. Co.** ..... 114
**Safety Box Toe Co.** ..... 51
*Agency: The Church Green Co.*
**Safety First Supply Co.** ..... 113
*Agency: Marsteller, Rickard, Gebhardt & Reed, Inc.*
**Safety Tower Ladder Co.** ..... 119
*Agency: M. Dorsey & Associates*
**Schrader's, A. Son** ..... 47
*Agency: G. M. Basford Co.*
**Scott Aviation Corp.** ..... 8
*Agency: Melvin F. Hall Advertising Agency*
**Selberling Latex Products Co.** ..... 109
*Agency: Fischbein, Advertising*
**Seminar Films, Inc.** ..... 116
**Setlow, M. & Son, Inc.** ..... 119
*Agency: J. W. Shepard Co., Adv.*
**Silicone Paper Co. of America, Inc.** ..... 11
*Agency: The Package Advertising Co.*
**Singer Glove Mfg. Co.** ..... 130
*Agency: Charles Silver, Adv.*
**Sirene Co., Inc.** ..... 130
*Agency: Frederick S. Oliver, Advertising Agency*
**Standard Safety Equipment Co.** ..... 118
*Agency: Presba Fellers & Presba*
**Standard Signs, Inc.** ..... 130
*Agency: R. J. McFarlin & Co.*
**Stephenson Corp.** ..... 103
*Agency: Thoma & Gill, Adv.*
**Stonehouse Signs, Inc.** ..... 63
*Agency: Rippey, Henderson, Bucknum & Co., Advertising*
**Surgical Mechanical Research, Inc.** ..... 104

T

**Taylor, S. G., Chain Co.** ..... 98
*Agency: Jones & Taylor, Inc., Advertising*
**Tect, Inc.** ..... 112
*Agency: Town Advertising Assoc.*
**Tokheim Corp.** ..... 110
*Agency: Jones & Taylor, Inc.*

U

**Union Wire Rope Corp.** ..... 83
*Agency: Potts-Woodbury, Inc.*
**U. S. Borax & Chemical Corp.** ..... 53
*Agency: Howard M. Irwin & Associates*

W

**Washington Products Co.** ..... 114
*Agency: Wheeler, Knight & Gainey Inc.*
**Watchmaket Optical Co.** ..... 105
*Agency: Darrell Prutzman Assoc.*
**Wheeler Protective Apparel, Inc.** ..... 117
*Agency: Armstrong Advertising Agency, Inc.*
**Wilder Mfg. Co., Inc.** ..... 119
*Agency: Rothstein, Simmons, Pascoe & Davis, Inc.*
**Wilkins Co., Inc.** ..... 80
*Agency: Laux Advertising, Inc.*
**Willson Products Div., Ray-O-Vac Co.** ..... 45
*Agency: Howard H. Monk & Associates, Inc.*
**Wilson Rubber Co.** ..... 5
*Agency: Norman Malone Assoc. Inc.*
**Worklon, Inc.** ..... 106
*Agency: Arpadi-Sarett Assoc.*
**Wyandotte Chemicals, Co.** ..... 73
*Agency: Brooke, Smith, French & Dorrance, Inc.*


## advertising staff

*425 N. Michigan Ave.*
*Chicago 11, Ill. WHitehall 4-4800*

**advertising manager:**
Bob Jones

**advertising production manager:**
Oliver Mickila

## advertising sales representatives

**Chicago:** MacIntyre-Simpson & Woods
*75 E. Wacker Drive, CEntral 6-1715*

**New York:** MacIntyre-Simpson & Woods
*101 Park Ave., LExington 2-0020*

**San Francisco:** Duncan A. Scott & Co.
*85 Post St., GArfield 1-7950*

**Los Angeles:** Duncan A. Scott & Co.
*1901 W. 8th St., DUnkirk 8-4151*

# *Use the* READER SERVICE POSTCARD

## to obtain more information on . . .

• Advertised Products • New Safety Equipment • Trade Literature • NSC Employee Books

**Here's how it works—**

**Printed below are two identical Reader Service postcards—the bottom one for your use; the top one for use by any other reader of this issue. All Advertisements, New Safety Equipment announcements, Trade Publication listings and National Safety Council Employee Booklet descriptions carry item numbers corresponding to the numbers printed on the cards. Just circle the numbers of the items you want to know more about and send us the postage-free card. We'll have the full information or sample copies sent to you—without obligation.**

### *Advertised Products*

—feature equipment and services that will help you solve accident problems in your plant. Instead of making a "mental note," make sure you get full information by sending in the card. If no item number appears with an ad, it will be found on the opposite page, next to the arrow. Cover position ads are shown on the cards as: IFC—inside front cover; IBC—inside back cover; BC—back cover.

•

### *New Safety Equipment*

—shown in the special section has been carefully reviewed. Only new products or newsworthy improvements in existing equipment are considered eligible for this section.

•

### *Trade Publications*

—are catalogs, brochures, spec sheets and booklets—a wealth of helpful literature—describing equipment and services that will assist you in comparing before you buy. You can build a valuable safety equipment reference file with these free publications.

•

**IMPORTANT—Be sure to fill in your name, organization and address in the space provided on this side of the postcard.**

### *NSC Employee Booklets*

Single copies of new National Safety Council employee booklets are yours for the asking. These aids are constantly being published or revised to bring your employees the latest information on how to prevent accidents. Use the Reader Service Card below to get free samples of the booklets that you think will be suitable for use in your employee training. For descriptions of these new publications see page 98.

Please send me more information on the items circled below: **JANUARY, 1960**

(Good until March 31, 1960)

PRODUCTS ADVERTISED:

IFC IBC BC 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47
48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72
73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97
98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122
123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147

NEW SAFETY EQUIPMENT:

301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325
326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350

TRADE PUBLICATIONS:

400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424
425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449
450 451 452 453 454 455 456 457 458 459 460

NSC EMPLOYEE BOOKLETS:

500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524

(Please print your name and address in full—do not abbreviate)

NAME _____ POSITION _____

COMPANY _____

ADDRESS _____ CITY & STATE _____

**WITH SIDE SHIELDS**

For total enclosure protection, CESCO Polyfit frames also come equipped with perforated plastic side shields. They offer the same outstanding features as the spectacles described above.

• Two Sizes: No. 3165 (46 x 39mm), No. 3185 (48 x 41mm)

Circle Item No. IBC—Readers Service Card

# *The advertising pages of the News*

## . . . your guide to products of importance and help to your plant safety program

**Keep up-to-the-minute on all the latest advances in industrial safety products and services through the advertising pages and new safety equipment features in the NATIONAL SAFETY NEWS.**

**Should you want additional information or special consultation on your specific problems, don't hesitate to write to the manufacturers. They welcome your inquiries and will answer your questions without obligation.**

**Although the Council does not test or examine the products advertised or mentioned in the editorial features, staff engineers and technicians review all product information in an effort to determine that descriptions and performance claims are accurate. It should not be construed, however, that commercial products are approved or endorsed by the National Safety Council.**

FIRST CLASS
PERMIT No. 834
CHICAGO, ILL.

**BUSINESS REPLY CARD**
No Postage Stamp Necessary If Mailed in the United States

5c — **POSTAGE WILL BE PAID BY** —

*Reader Service Department*

**NATIONAL SAFETY NEWS**
425 NORTH MICHIGAN AVENUE
CHICAGO 11, ILLINOIS

**Before you mail your Reader Service postcard . . .**

# TAKE ANOTHER LOOK AT

- **the ADVERTISING pages**
- **the NEW SAFETY EQUIPMENT section**
- **the TRADE PUBLICATION section**
- **the NSC EMPLOYEE BOOKLET page**

**Make sure all the items you want to know more about are circled . . . check to make sure your name, organization, and address are printed on the reverse side of the postcard . . . THEN mail it today.**

*National Safety News, January, 1960*

*Designed to further simplify your Safety Glass inventory*

# NOW

Get

**1 FRAME** with

**2 UNIVERSAL FEATURES...**

## New CESCO Polyfit Bridge

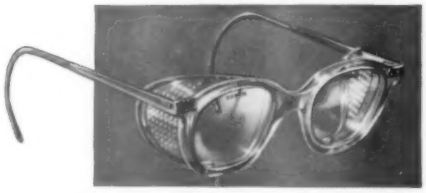
## and New CESCO Interchangeable Temples

• Here's how to go all the way in simplifying inventory with a single safety glass that will fit the vast majority of your workers. New CESCO Polyfit frames have not one but two features to make them adaptable to the widest range of nose and facial contours. New Polyfit bridge design is amazingly comfortable on most individuals—thus eliminating the need to carry a large inventory of bridge sizes.

But in addition, CESCO Polyfit frames also feature gleaming nickel-silver temples which are interchangeable with other CESCO plastic frame glasses or with most safety glasses equipped with 5-barrel hinges—regardless of color. Sur-Loc pins fasten temples to frame. Tapered temples come in two styles—cable or spatula. Polyfit frames in flesh tone plastic are available with or without side shields.

- Your choice of two sizes: No. 316 (46 x 39mm), No. 318 (48 x 41mm)
- Popular F7 shape lenses are removable for easy "on-the-spot" repair

*Ask your distributor to show you the New* CESCO *Polyfit safety glasses*
*He'll also be happy to introduce you to the complete line of* CESCO *head and eye protective equipment*
*There's a* CESCO *distributor located in most major cities*



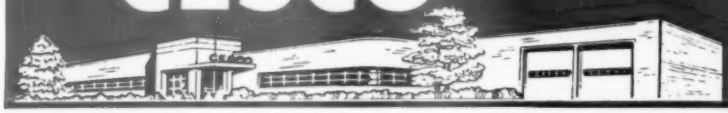
**WITH SIDE SHIELDS**

For total enclosure protection, CESCO Polyfit frames also come equipped with perforated plastic side shields. They offer the same outstanding features as the spectacles described above.

• Two Sizes: No. 3165 (46 x 39mm), No. 3185 (48 x 41mm)

CESCO

**CESCO FOR SAFETY**



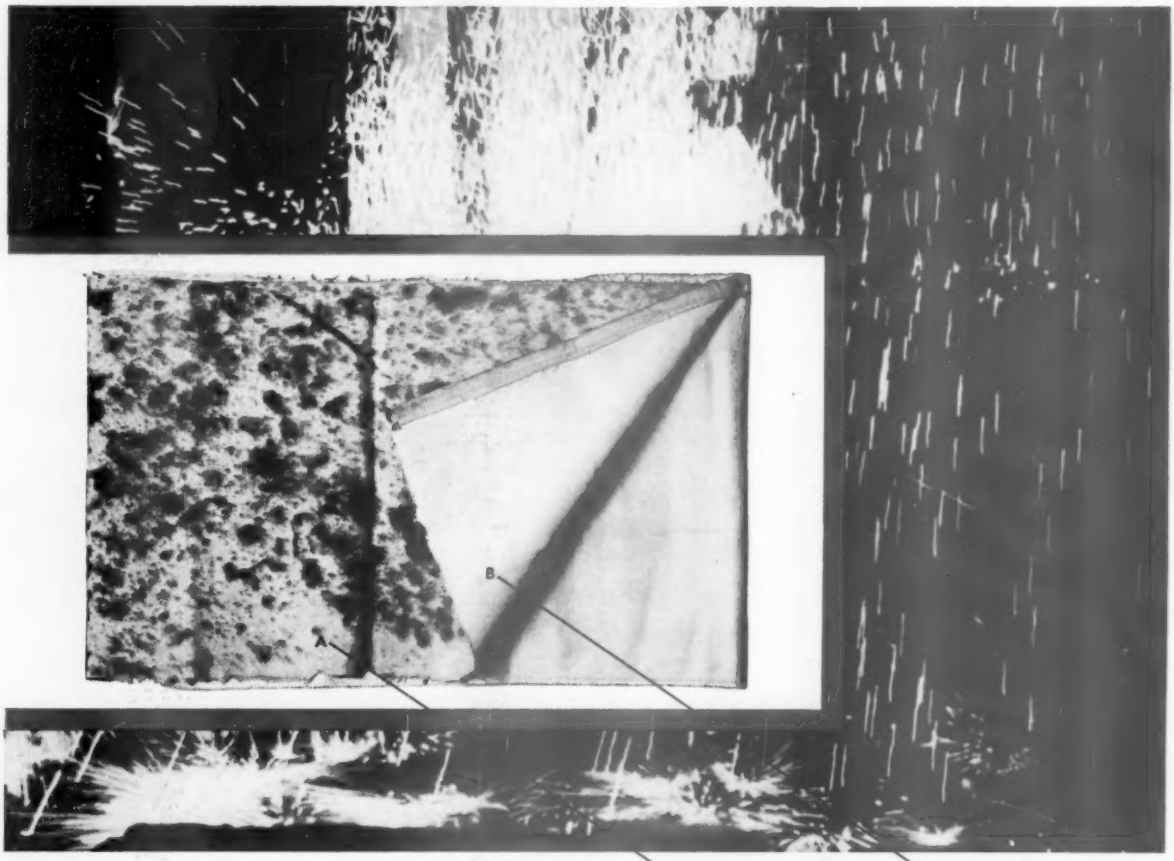
CHICAGO EYE SHIELD COMPANY
2703 West Roscoe Street, Chicago 18, Illinois

Circle Item No. IBC—Readers Service Card

# BELIEVE IT OR NOT...

## This material was exposed to 3000°F molten splash!

## IT'S NEW AO "THERMOGARB" ASBESTOS CLOTHING




**A** Here's the *outer* side of the material which was directly exposed to the molten splash at a distance of 8 feet from the pour.

**B** Here's the *inner* or wearer side of AO Thermogarb. After 7 minutes of splash exposure there's no burning through or penetration, no scorching, not even a blemish.

AO Thermogarb is a NEW *lightweight* asbestos cloth. A 30-inch length coat weighs approx. 3¾ lbs. as against conventional asbestos coats of 6½ lbs. — or approximately the same weight as aluminized asbestos coats of the same length. This completely field-tested material is available in a complete line of body protection for high heat — molten splash protection. Your nearest American Optical Safety Products Representative can supply you.

American Optical
COMPANY
SAFETY PRODUCTS DIVISION
SOUTHBRIDGE, MASSACHUSETTS
*Safety Service Centers in Principal Cities*

*Always insist on Trademarked Safety Products*

Circle Item No. BC—Readers Service Card